

London PO workers join Mercury protest

by Donald Kennett
FURTHER union opposition to Mercury Communications' rival to the British Telecom network has come from the London City branch of the Post Office Engineering union, which lobbied the union's head office last week after circulating other branches for support.

A campaign to prevent the start-up of Mercury was launched last month by Liverpool Internal branch with a fighting fund of over £1,000.

The meeting, held in the POEU's car park, heard general secretary Bryan Stanley say that the national executive had decided to take any action necessary to oppose the connection of Mercury to British Telecom's network and any further liberalisation of telecom-

munications.

Liverpool Internal branch secretary Phil Holt, who is also chairman of the British Telecom Union Committee (formerly the Council of Post Office Unions), said there was almost unanimous approval for the campaign of opposition to Mercury among BT staff unions.

Discussions were being held on finances for meetings, advertising and other aspects of the campaign and on co-ordinating it into more widespread opposition to privatisation generally.

On the other hand, the POEU supports the government's proposed wideband cable network which is designed to carry cable television as well as two-way telecommunications services, provided that it is controlled by BT and installed by its members.

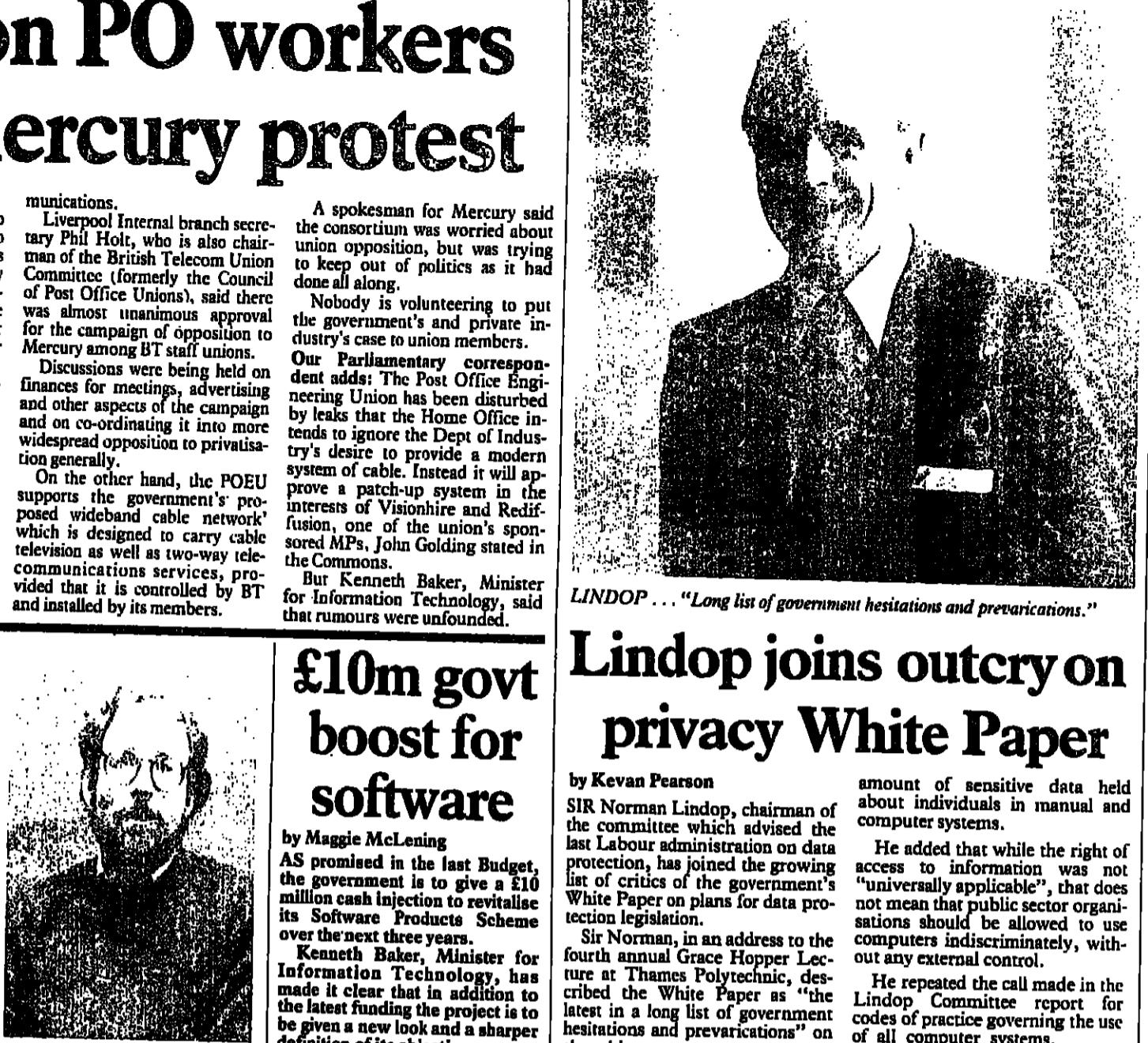
But Kenneth Baker, Minister for Information Technology, said that rumours were unfounded.

DP book wins prize

TRACY KIDDER, author of *The Soul of a New Machine*, has won the Pulitzer Prize for non-fiction.

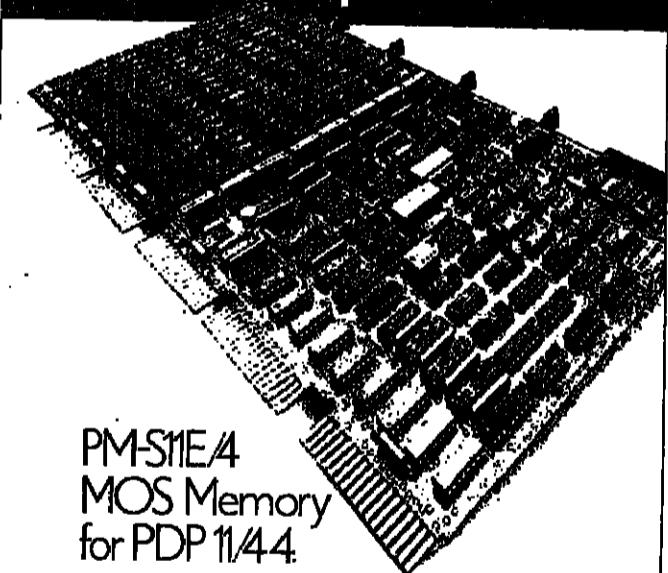
His book is based on observations of the day-to-day working environment at Data General's Westborough headquarters in Massachusetts where an unofficial research team plots to bring out a 32-bit minicomputer ahead of the official research team, and wins.

The film company Columbia has taken out a one-year option on the book with the right to renew the option for another year.



KIDDER... Pulitzer Prize

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PLESSEY
PERIPHERAL SYSTEMS

£10m govt boost for software

by Kevan Pearson

SIR Norman Lindop, chairman of the committee which advised the Labour administration on data protection, has joined the growing list of critics of the government's White Paper on plans for data protection legislation.

Kenneth Baker, Minister for Information Technology, has made it clear that in addition to the latest funding the project is to be given a new look and a sharper definition of its objectives.

Although the scheme will continue to be administered by the National Computing Centre (NCC), it will be guided by an advisory committee drawn from the computer industry, including three members of the CSA Software Products Committee.

Brian Cudby, operations director of BIS Software, is to be chairman of the advisory committee, aided by David Roberts of RTZ Computer Services and Dr Robert Warden of Logica.

Other committee members are Eric Howe of the National Computer Users' Forum; David Else of the NCC; Nicolas Bernard and Tom Fleming of the Department of Industry; and Dr Douglas Eyelons, director-general of the CSCSA.

No ceiling has officially been set for the maximum amount a company may receive. Allocation of the funds has been divided up over the three years into £3.6 million for 1982-3 (which includes £1.6 million unspent in 1981-2), £4 million for 1983-4 and £5 million for 1984-5.

Later in the year a group of City

amount of sensitive data held about individuals in manual and computer systems.

He added that while the right of access to information was not "universally applicable", that does not mean that public sector organisations should be allowed to use computers indiscriminately, without any external control.

He repeated the call made in the Lindop Committee report for codes of practice governing the use of all computer systems.

He said that most people had "an ambivalent attitude" to the security forces, and the situation would not be helped if there were widespread exemptions in the security forces' use of computers.

Sir Norman believes that the data protection authority should have at least one person with security clearance, so that police and national security systems do not fall outside the ambit of the legislation.

Sir Norman described the public sector as representing the main danger as far as privacy is concerned, because of the massive

Design award for ZX81

by Kevin Cahill

A DESIGN Council award has capped a good year for Clive Sinclair and his company, Sinclair Research.

Sinclair's ZX81 microcomputer, which won the award, has now chalked up over 400,000 sales; he has just launched the Spectrum, a colour personal computer, and a few months back he made a major deal with ICL for the sale of mini-terminals.

Earlier in the year a group of City

institutions plans to buy 10% of Sinclair Research and is expected to offer anything from £2 million to £5 million for the stake.

Sinclair is no stranger to the Design Council Awards. He picked up awards for his executive calculator in 1973, the Sovereign pocket calculator in 1977 and the Microvision pocket TV in 1978.

Mullard was the other information technology company to win a Design Council Award for a microprocessor.

Later in the year a group of City

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JARMAN... Hopes for increased Access involvement.

Laser storage rivals prepare for battle

by Kevan Pearson

LEADING suppliers of disc technology are forming their battle lines in anticipation of a rapid growth in the market for laser-based optical storage devices.

Two rival, but related technologies, have emerged. The major difference between them is that one actually burns holes in a metallic layer on an optical disc, while the other heats the metal up to create a blister of expanded gas to serve the same purpose as the hole.

Both techniques have major companies' backing. The "hole" technique is supported by a joint venture between office equipment manufacturer Xerox and the French electronics combine Thomson CSF. It is also being developed by Shugart Associates, the Xerox subsidiary which initiated the 5½" "mini" Winchester type disc.

Both techniques have major benefits for their type of recording, but until production models are available it will be impossible to make verifiable claims for either system. And the CDC-Philips venture does not expect to have a marketable product until

next year.

The two great advantages claimed for optical discs over more conventional media are the massive volumes of data - with bit densities up to 100 times those available with magnetic media, says Shugart - and the lower risk of mechanical failure. The read/write head is about 100 microns (one micron = a billionth of a millimetre) above the disc as opposed to less than one micron for thin film heads on conventional discs.

On the negative side, the discs are non-erasable, but space can be left available on the disc for updates and changes.

The major manufacturers do not see the optical disc as a direct rival for magnetic media. Its main use will be in archival applications, for backing up conventional storage and in the "office of the future" to replace paper files.

SALES BRIEF

CAP lands £545,000 police deal

CAP has won a £545,000 two-year contract from Durham Police to supply a network based on the Perkin-Elmer 3230s and its Milgo communications equipment. This will link 14 sites to headquarters and to six police national computers in the UK.

The contract follows three years of planning and is to be completed by autumn 1983. The system will place a teleprinters network as well as provide message switching and bulletin board facilities.

CAD for Meyer

SHADE Computer Services has won an order from Merton Meyer, the UK's largest engineering trading company, for a CAD system based on a Gould 32/27 32-bit mini. It will be used for designing timber frame buildings and its database will hold up to 3,000 items from which parts, parts schedules, order lists, delivery lists and manufacturing etc.

"It has to make sure it won't have all these high-powered systems stuck with no way to get the data between locations fast enough, because users have to rely on voice grade telephone lines,"

Doll said.

Satellite technology had developed very rapidly in the US over the last two or three years, but the main market continued to be broadcasting, he said. Many large corporations, however, had installed satellite links for bulk data transfer and video conferencing, or in order to own their own communications links rather than renting them from a telephone company.

The usage of satellite links was very limited today but would literally explode over the next few years, he added.

The communications products that could be expected from IBM this year included a higher performance version of the 3703 data communications controller, with four and eight times more storage and a significantly larger throughput, and a series of local area networks designed for different specific purposes.

In the next two or three years it would launch an improved version of its 1750 small PABX both in Europe and the US. PABXs were important for any supplier because they were the key to controlling the whole office and the way it was wired up.

Almost all suppliers recognised that electronic mail would be one of the most important opportunity areas for users in the next five years, but few PABXs had electronic mail facilities on them.



DOLL... "Use of satellite links will explode in the next few years."

Govt arm backs OCR

by Boris Sedlacek

THE unimpressive market record of optical character recognition technology looks set for a temporary improvement.

The Central Computer and Telecommunications Agency, the government's computer buying arm, has issued guidance to government departments to look at mixed-media OCR and key-to-disc data entry equipment.

OCR technology perpetuates the technologically unglamorous market for batch processing. But in the case of government departments it is a better method than online teleprocessing for the large quantities of "turnaround" forms such as gas bills and tax demands which have to be processed.

AREGON International's overseas success with viewdata software sales - they reached £2 million last year after doubling for three years - has led it to begin its own marketing in the UK.

Managing director Anthony Chandor said that Systems Designers, which developed the IVS-3 viewdata system and has been marketing it in the UK for Aregon, would continue to provide a viewdata application support and development service and to implement specials for Aregon, but we no longer market the IVS-3 as a system.

Aregon has set up its own development centre in South London. According to Colin Jarman, managing director of OCR Scandata, the commercial market for OCR is also growing, particularly in banks, building societies and insurance companies. He said: "Access currently uses our equipment for payment vouchers and we are hoping to interest them in trials on sales vouchers. We are also talking to Barclaycard."

'Eurotechnique should lead French plan'

by Jack Gee

EURETECHNIQUE, the partnership between National Semiconductor and France's recently nationalised Saint Gobain conglomerate, is claiming leadership of the French government's new five-year computer components plan whose details are to be announced in July.

Jean-Luc Grand-Clement, managing director of Eurotechnique, said his organisation should be chosen in preference to the Thomson-Motorola and Matra-Harris alliances for this key role.

Grand-Clement said: "National

Semiconductor is not necessarily the world's best manufacturer of integrated circuits. But it is the only one which is genuinely ready to co-operate.

"The others are concerned only about earning as much money as possible while giving away a minimum amount of technology."

The Eurotechnique chief expressed concern about the government's decision that Saint Gobain, which is the major partner in CII-Honeywell Bull as well as holding a 51% stake in Eurotechnique, must withdraw from the computer industry.

Grand-Clement said: "National

lition franca (£130 million) in 1986, 55% of it from memories.

Grand-Clement urged that Eurotechnique should become an industrial partner of CII-Honeywell Bull to prevent the Franco-American computer firm from developing a CMOS effort of its own.

He added: "The entire commercial and technological battle today is being fought over memories. Firms which do not make memories are doomed. But those which make only memories and which are not geared to manufacture microprocessors are also bound to go to the wall."

A HAND-HELD computer weighing 1½lb and complete with a suite of application software was launched on the European market at Hanover Fair.

Not much bigger than a pocket calculator, the Panasonic RL-H1000 was shown in a variety of configurations.

Described by Panasonic as a total computer system, the H1000 has 2K of RAM memory expandable to 52K with a basic ROM chip of 16K. There are sockets for up to three further 16K ROM capsules, which demonstrate a trend, in common with other Japanese companies, towards the use of pre-programmed ROM chips instead of floppy disc or other magnetic media-based programs.

The hand-held micro comes with a limited liquid crystal display which can show about 28 characters, but the machine can be plugged into any television set made to US (NTSC) standards. Colour graphics software is available.

The conversion to PAL television used in most of Europe is currently under way.

One of the more interesting aspects of the machine was the wide range of software available with it, most of it prepared for Panasonic in America. The principal language offering is Snap Basic, a Basic specially adapted to the operating system which drives the H1000.

The machine was launched in Germany at a basic price of £350, but plans for a UK launch are still not available from the Panasonic Marusbourne office in Slough. Mid-1983 is thought to be a likely date.

So, what has been the problem? Cost. Considering their performance, the TermiNet 2000 series matrix printers from Zygal have always been excellent value. But now, they are available at around the same price as other more basic printers. But only from Zygal. And not for long. Send off the coupon.



There has always been one big problem with the General Electric TermiNet 2000 series matrix printers from Zygal. It's not that they're a new breed of matrix printers, so advanced, so functional that's the problem. Their reliability has never been questioned. It's true that they are very quiet in operation, easy-to-use, easy-to-carry. The sleek clean lines complement all decors. Fewer moving parts. A choice of 60 cps and 130 cps models in either keyboard or receive-only configurations. Each with higher print quality, including descenders and underline.

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SYSTIME has sold a £20,000 Series 6700 computer to a UK-based electrical distributor, Coventry Factors, which includes Syntime systems, which includes Syntime SYSIM and SYSPIN, and financial packages, together with other software and peripherals, primarily for stock and sales control.

Terry Duffy, president of the

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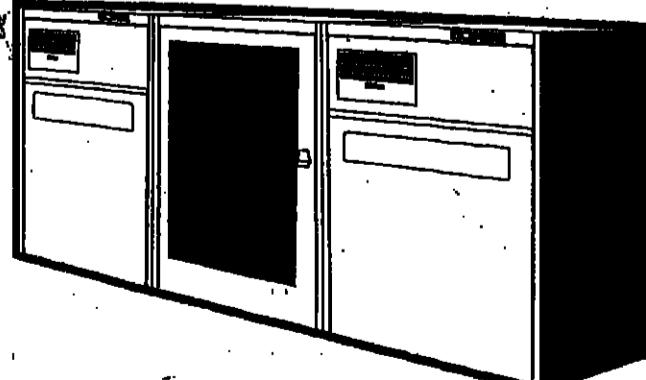
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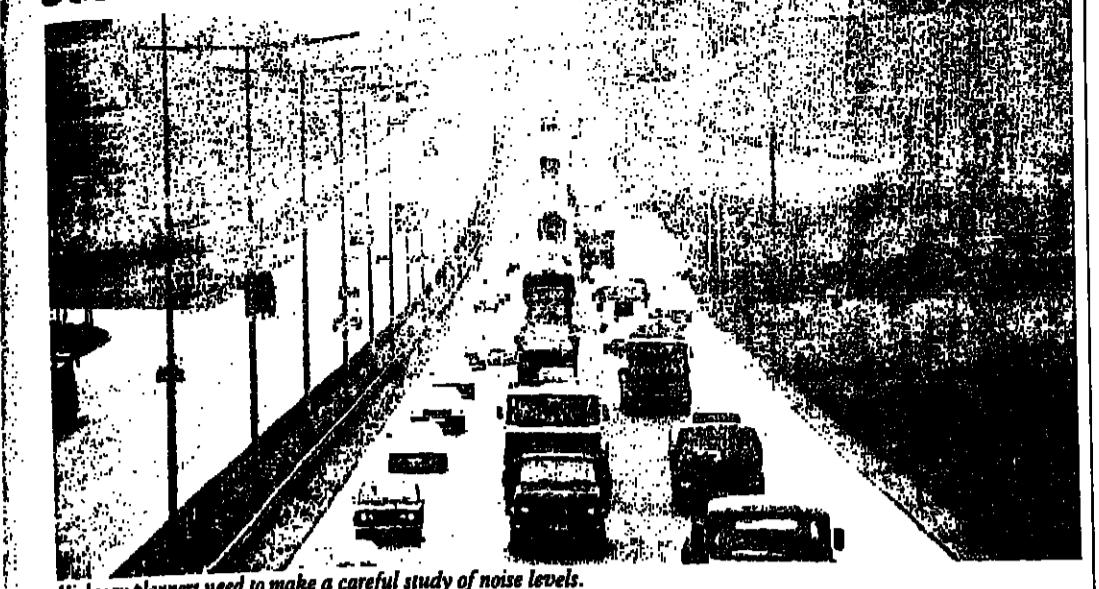
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SOFTWARE FILE



Highway planners need to make a careful study of noise levels.

Plans to enlighten the public

NOISE has been a relatively late addition to our ever-growing list of environmental pollutants. But the realisation that hearing damage can result from even relatively low noise levels, if exposure is prolonged, has created a need for sophisticated computing tools for monitoring and control.

A pioneering program developed by the GLC for the examination of noise on London's roads, has since been redeveloped by Applied Research of Cambridge and widely used in the planning of main roads and motorways.

ARC's latest addition to the package, known as Mway, will enable Highway Authorities to present noise level information in colour.

The enhancements mean that

Mway will be able to produce detailed overall plans of the environment in different colours and line styles, which can be easily understood by non-specialists, and plot decibel noise values for any parts of existing buildings. These plans may then be shown to the general public by highway planners.

Data covering the proposed

motorway, such as its width, lane

designations and large road signs, is input via a digitiser, together with information about the surrounding area, including buildings.

Projected traffic flow figures are added to this information, and Mway calculates expected noise levels in accordance with the Department of the Environment standards laid down in the Noise Insulation Regulations of 1975.

Using the noise level information, Mway can then specify which properties in the vicinity, if any, will qualify for noise insulation grants. After the motorway has been completed, it also helps in the compilation of the statutory Noise Map and can be used to produce detailed information on any single property, should the owner appeal against the size, or lack of, a grant.

The package was originally developed for the GLC, and the current version is an extension of a program written in the mid-seventies, brought up to date to comply with the most recent set of regulations from the Department of Transport. Being geared to British regulations has tended to restrict sales of the £5,000 system.

"It is a limited market because few authorities apart from the De-

partment of Transport or county councils use this type of package, plus the fact that the construction industry is in the doldrums at the moment," commented Ian Stratford, head of consultancy at ARC.

He added that the company is now looking for ways to adapt Mway for the overseas market, possibly Hong Kong.

Authors would be paid royalties

Osborne leaps on the third party bandwagon

FOLLOWING hard on other mini and mainframe manufacturers who have launched schemes to encourage third-party software sales is Osborne Computer Corp, maker of the Osborne 1 microcomputer that took the US market by storm last year.

Osborne has announced that it is keen to build up its library of authorised software to 100 programs by the end of the year and to encourage software authors with ideas for systems that make full use of the Osborne 1's portability feature.

"The concept is that we act as a publisher and ask authors to submit detailed specifications, including the size and location of the intended market," explained Mike Healy, managing director of Osborne Computer Corp UK, based in Milton Keynes.

A list of guidelines for would-be software suppliers will shortly be issued in the UK, probably during the next month, and is already available on the Osborne 1.

Some software has already been submitted, and there are 12 programs currently under evaluation. The authorised library only contains 20 programs at the moment, so there is plenty of scope

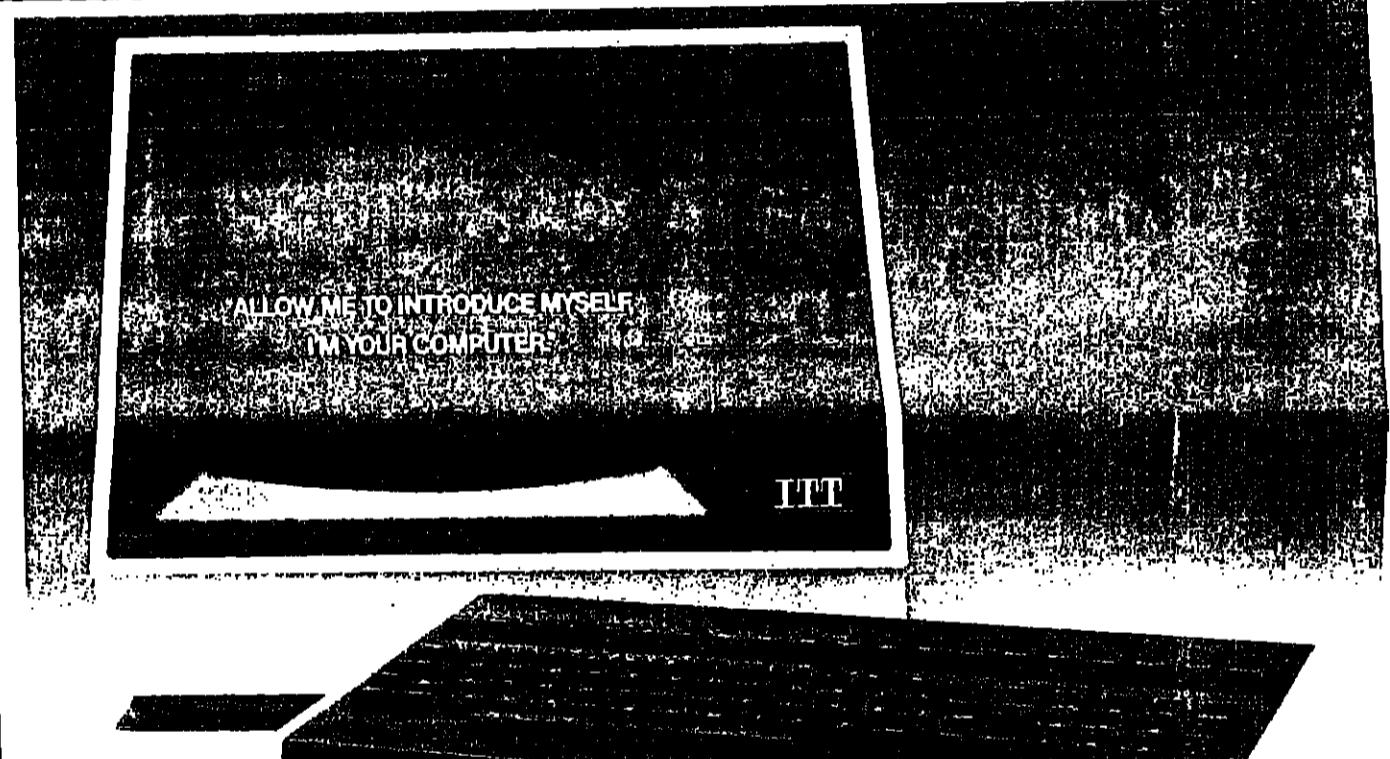
for addition.

The type of applications that Healy suggests would best use the machine's portability could be for salesmen or investment consultants who would work from a variety of bases and take the Osborne 1 with them.

It has already been used in journalism, for filing copy on trips abroad, and is expected to be used on the Scott Polar Antarctic expedition due to be mounted from Cambridge shortly.

Perhaps the most unusual application so far is the one in use at Wilson & Partners, project management consultants specialising in African and South American assignments. They have bought four machines of which three are based in London and one in Kaduna, Nigeria.

The machine in Nigeria is used to generate legal documents, using the Wordstar package, which are then transmitted direct to London via a standard acoustic coupler to avoid the considerable communications problems of the country.



Lower-cost hardware benefits APL*Plus

THE recent sale of its set of APL enhancements to consultants Cocking and Drury confirms the view of bureau APL Plus that falling hardware costs will encourage more of its users to buy in-house machines.

The bureau is a subsidiary of the STSC international time sharing service, and first offered its own version of the APL language, built up over 13 years' experience, 18 months ago at a purchase price of £27,000. Ten of the systems have been sold, but the majority of them have gone to large companies such as British Airways, Burslem-Castrol and BP.

In the past APL has largely been limited to scientific environments, and few commercial systems have been produced.

"The heart of the problem is that APL is very bad at data handling and security. It is known to be clever and elegant but not all that useful except in a scientific way," explained Mike Hardwidge, man-

Your computer may well have a lot to tell you. But unless you've got the best terminal, you'll never be able to find out.

With an ITT VDU however, you'll instantly be able to find out what your computer is thinking.

The crisp, clear display gives you instant access to all the data you need.

And because all three models in the ITT range are microprocessor based, they're versatile enough for any number of different requirements.

For example, you get a line drawing character set so you can create bar charts, forms and graphs.

You also get a status line which reminds you of how the terminal is operating.

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Something else worth remembering is the fact that ITT VDUs can store up to 7 pages or 168 lines of data.

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And the ITT 3243 has been expressly designed for use with ITT's 6100 switching system.

All these models can be teamed up with ITT's compact advanced dataprinters.

And they're all backed up by the nationwide sales and service support of ITT Business Systems, Europe's largest telecommunications company.

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If you don't buy an ITT VDU for your computer it won't speak to you.

See our great range of terminals at the World Trade Centre, London May 17th/18th.

DW6-8

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ITT Business Systems

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COMPANY NEWS

Systems builder climbs from nought to £1m in two years

A BRITISH Digital Equipment OEM has achieved a rare success.

Darkcrest, a systems builder which uses DEC processors and customised software and peripherals, produced turnover of £660,000 in its first year which ended July 1981. And now it aims to hit the million mark by its second year end.

1981 profits at £62,000 were respectable above industry averages, but its six staff turned in sales four times higher than the industry average per employee in that year.

But it didn't happen without the kind of heartbreak which seems to hit every entrepreneur at least once in his career.

Nick Brackenbury, managing director of Darkcrest, had a long and successful career with DEC and Systime, before deciding to go it alone. He had a false start as a minority shareholder in a group of companies, but difficulties with the majority holder forced him to move and effectively write off two years of effort and investment.

That was the moment, he says, when he had to decide whether to go back to a company like DEC, or swallow his losses and start again.

He teamed up with fellow electronics engineer Roger Box. They had £30,000 lent by friends to buy equipment.

Peter Williams, the operations director, points out that Darkcrest, while always using the DEC processor and the DEC operating system RSTS, will choose the best and most economic peripherals.

Brackenbury is complimentary about the reliability of the Fujitsu Winchester which Darkcrest uses in some of its systems.

Darkcrest is based in an old building in Borough High Street, close to London Bridge.

Talking about the early days of the company, Brackenbury wryly suggested that without bank facilities and with a very close connection between your income and your salary, you don't go for expensive offices, cars or furniture.

Now Darkcrest has over 160 customers, about 40 of whom have complete Darkcrest installations.

At the end of 1981 the Industrial and Commercial Finance Corporation (ICFC) purchased 20% of the company's equity.

This gave it the necessary working capital, without the burden of interest and capital repayments, for expansion.

The company will reach £1 million turnover by July 1, with profits around £82,000, says Brackenbury.

Like all companies of its size, Darkcrest is dependent on reference sites, one of which, Telemart, is in its own building.

Readers in London who listen to Capital Radio and LBC will have heard recently the ads for Telemart, the first computerised exchange and mart. Telemart is dependent on a computerised matching system linking sellers and buyers via its own operators.

Once the decision to set up Telemart had been taken, Darkcrest had four weeks to build its Record Data management-based filing system.

The Darkcrest team, Nick Brackenbury (top), Peter Williams sitting, Roger Box ... aiming for £1 million turnover this year.

Ferranti takeover battle soon

THE covenant which prevents the sale of half of Ferranti's shares by the first purchasers at the government sale expires in August, and the City is beginning to show some interest in the expected takeover battle.

Neil Barton, an industry analyst at Manchester stockbrokers Henry Cook Lumden and Co, suggests that neither potential monopolies Commission referrals nor management constraints will prevent all companies bidding.

He identifies Hawker Siddeley and STC, the ITT part-owned subsidiary, as the most likely contenders, with GEC and Plessey

ruled out because of possible objections from the Monopolies Commission.

Ferranti pushed its turnover in 1981 to £271 million, from £15 million the previous year, with profits showing a similar upward trend from £15 million to £20 million.

Barton opts for an indefinite future for Ferranti as the best of the possible outcomes.

He suggests that growth in the future will be even stronger than the past, with shareholders receiving greater benefits from holding Ferranti shares than by accepting a bid in either companies' shares, or cash.

He adds that the market for Ferranti's products will be even stronger than the past, with shareholders receiving greater benefits from holding Ferranti shares than by accepting a bid in either companies' shares, or cash.

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GILB'S MYTHODOLOGY

Business goals should always be made clear

The Second Principle of Infostecture: Goals should be stated so that they are as objectively interpretable as possible.

I AM no longer astounded by the fact that business goals, as well as computer system goals, are consistently stated in an unclear manner. This seems to be true all over the world, in all industries and even in the most well known high technology and "well-managed" of companies.

There seems to be a human tradition of unclear goal specification. I understand the politician's desire to avoid being responsible for failure to meet a goal too clearly stated. But I fail to sympathise with professional management who deliver unclear goals to their subordinates.

Typical phraseology runs like this: "Improve productivity, reduce unnecessary costs, increase market profile . . ."

The problem from the point of view of the system developer is:

- How much shall we improve?
- By what date?
- At what cost?
- What are the relative priorities of conflicting goals?

Only by getting clear answers to such questions can the system developers hope to serve their masters.

I suspect that both parties, boss and consultant, are to blame for the confusing language used to state goals. Both seem equally ignorant of the need for clearer languages. Both seem equally ignorant of the clearer goal languages themselves.

It is difficult enough to develop a solution to a problem with clearly stated goals. It is a meaningless exercise to develop solutions to problems so unclearly stated, as seems to be universal practice. We can only generate approximate solutions and then "patch them up" when we see that they do not solve the real problems.

Here are my criteria for "clearly



Tom Gibb is an independent consultant, lecturer and author on computing topics.

stated" goals.

- Goals must be objectively measurable as to whether they have been attained or not.
- Goals about system attributes (qualities and resources used) should be measurable in a practical and economic manner.
- It is useful to state attributes in terms of "worst acceptable level", as well as "planned level".

For comparison, the "present level" of the attributes should be stated explicitly. It is unrealistic to expect people to know what it is today.

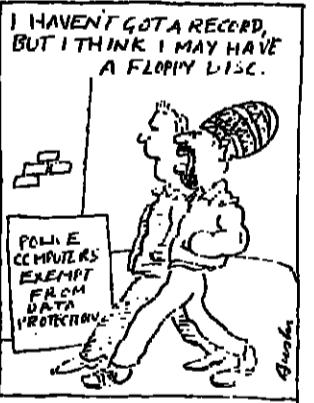
The degree of uncertainty about a goal level should be made explicit. For example 50 ±20 or "30 to 50". Uncertainty is normal and the most important characteristic of a number may be the uncertainty estimate surrounding it. It is a sign of professional competence that someone both understands the need to estimate uncertainty, and actually attempts to do so.

There is a simple test to see how clear the present system goals are. Ask all project participants to attempt by themselves to formulate the goals in measurable form. You will normally get as many different sets of goals as you have people trying to find out what the goals are.

Clearly such differences in understanding are already resulting in the project participants working in different directions, in conflict with one another, and in conflict with the wishes of the organisation's highest levels of management.

I challenge every reader of this column, now, to try to do a one page reformulation of the goals you are presently using for your present major project or activity, into quantified format. It may be difficult, but it will be revealing and useful to you. Try it.

Tom Gibb

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Not a shred of evidence

THE destruction of hard copies of security information, such as salary lists, is the easiest task in the world, one would have thought. But shreddings can sometimes be pieced together, and not every office has an incinerator handy.

A company has therefore filled what it thinks is a genuine need by bringing out a disintegrator which it claims will reduce paper to "micro-confetti." This requires no burning and is impossible to reconstruct.

A ghost in the machine

IS there life in a computer? We at Computer Weekly waste no time on such pedantic considerations, but some people believe there is.

For example the launch of Information Technology Year in Wales was celebrated by a competition for children under eleven to write an essay entitled: I Am A Computer.

The winning dissertation was written by a boy called Ranjit Singh Saini. His delightful little

The court of King Clive

YOU have to stand head and shoulders above the field to peer into the eyes of Clive Sinclair. Such is the gist of an advertisement in the Sunday Times for a chief engineer to work alongside the personal computer pioneer.

How right that is! Recently I heard Sinclair address a group of sympathetic but thirsting hacks about his new ZX Spectrum personal computer.

Usually these computer Press gatherings are purgatories of puff and platitude from which we are eventually granted freedom of the

Rounding up?

FOR each car its own number plate. That way it can be uniquely identified.

At least this would be the case in an ideal world. The state of Kansas, it seems, is far from the ideal. There it is possible for up to 315 licence plates to bear the same alphanumeric combination - with a resulting high number of erroneous detections and mistaken identities.

This preposterous state of affairs arises because each county in Kansas can issue personalised number plates independently of the other counties.

There are 105 counties, and within each county, the same number may be issued to each of three types of vehicle: car, truck and motor cycle.

All systems should require that not only was there life within it, but also that it lives on after death.

At this point the computer exclaims with pain, demonstrating that not only was there life within it, but also that it lives on after death.

Cliff Dillane

FOCUS

Pulling themselves together in public

INTEGRATION of systems and technologies within and between the computer and communications industries is certainly striding ahead. In fact, standalone equipment could soon be as rare without IT Minister Kenneth Baker being in the news.

But while system integration is being encouraged and supported by such authorities as the NCC and ITU, personnel integration levels seem as far off as ever.

Integration, at Birmingham last month most probably represented the approved, professional DP industry. Visitors were authoritative, knowledgeable and much involved in cost effective products and technology.

In London, meanwhile, a Computer Fair was in progress, attended by equally authoritative, knowledgeable and cost-aware visitors. But there the similarity ended. While Birmingham visitors were conventionally attired in suits with matching briefcases, the Earl's Court delegates favoured t-shirts, paper hats and plastic bags.

The microcomputer, however, featured heavily at both gatherings. At Birmingham the micro role was that of support - as a front-end communication device or at the back end in a hand-held diagnostic tester.

At Earl's Court the micro tended to become involved in such matters as the Euroimic mouse contest, laserbugs and musical games, and was strongly supported by such organisations as Chatterbox, Essential, and the rather sinister sounding KGB company.

Such dedicated fun and games were far from view at Birmingham where mice, bugs and paper hats would have been heavily stamped on. Apart from a certain keenness to feature at the beginning or end

of the show catalogue by names as AB and Zycer, AEG, ARK, and Zeltronix - runnery - companies were as basic as their picnics.

Only Andler Ltd and Ovilex would have been accepted at Earl's Court, when a prize would have been awarded for a CP/M board in Datentechnik.

Integration, at Birmingham last month most probably represented the approved, professional DP industry. Visitors were authoritative, knowledgeable and much involved in cost effective products and technology.

Integration, at Birmingham last month most probably represented the approved, professional DP industry. Visitors were authoritative, knowledgeable and much involved in cost effective products and technology.

IT Minister Kenneth Baker criticised the EEDC report for placing too much reliance on government initiatives. Now the EEDC has done a little more homework and made concrete suggestions which are more likely to please the government.

But although more realistic procurement policies on the part of government should be valuable and easy enough to achieve, Neddy's call for companies to get together and select particular products for development is by no means assured of success.

Such discriminatory policies could introduce far greater risks into Britain's future performance. The government's own selective support agencies, particularly the National Enterprise Board have hardly a glowing record, and the larger companies, which are the only ones likely to take part in the strategy discussions, are today constantly beaten by small and far nimbler firms.

On the other hand, Neddy does not seem to apply its policy of selectivity to the case of Britain's response to Japan's Fifth Generation Computer Project. It appears that the EEDC is calling for competition across the board, in an attempt to produce a carbon copy of the Japanese approach.

Surely here we should be building on our existing strengths, particularly our software expertise. There is nothing wrong with marketing Japanese hardware if the price is right, as no doubt ICL will soon be demonstrating to great advantage.

Good news for some

IBM has some good news for those long lines of disc starved computer users. It is planning to start deliveries of the much delayed 3380 2.5 gigabyte disc system in the UK by the summer. The bad news is that industry experts warn that any deliveries are likely to be very low, and even then most 3380s will go to 3081 installations rather than the more numerous 3033 user base.

It is natural for IBM to do this, particularly in the light of performance problems that have become apparent with the 3081. Not that the machine is slower than IBM claims - in some tests it is even faster - but unless the right peripherals are attached, and as far as discs are concerned that means the 3380, the machine cannot perform to its true potential.

The issue is, not whether there exist effective systems of helping people to communicate, but, are we using them? I maintain that we are not, and that, because we are not, the increase of data availability brought by microtechnology

LETTERS

Ops is not a dead end

I READ on the Op Spot page (CW April 8) of a DP manager from an operations background. As I assume that your aim is to provide such news as an encouragement to those operators who feel that their career is a dead end, you may find my own career progression of interest.

Like Andy Wight, I do not have a degree, but am a member of both BCS and IDPM; the former attained by taking the BCS examinations. Neither the BCS nor the IDPM look down on members without degrees, several committee members of both lack this "attribute". The only important factor is experience.

My responsibilities encompass those of communications manager, data processing manager, information systems manager and new products marketing manager, so the ubiquitous, if somewhat pompous, title of manager - information technology provides a useful cover-all.

I employ six operations staff (ops manager, senior op, four ops) and a junior systems analyst (position currently vacant and under review).

Our plans for the next two years include a number of interesting projects, for which I have now completed most of the specification work. They include the replacement of our push-button data

units by specially built microprocessor based systems; the installation of a powerful mini to integrate our news text editing and storage facilities with viewdata facilities, the development of special VDUs to interface to this new integrated system, links to the international PSS and the Stock Exchange Topic system; installation of video studios (we currently operate only radio studios), and many other areas.

My own, doubtless prejudiced, view is that senior data processing executives in my type of position are severely disadvantaged if they do not have in-depth experience of all the areas of their responsibility.

In a small company like ours, this is particularly true. It would be very difficult for me to set operating rotas, evaluate equipment or see the potential of many factors of new technology without my operations background.

Any day, I would employ somebody with a few years' experience spread over operations, programming and systems rather than a university graduate with the same number of years as an analyst.

IAN JAMES Manager, Information Technology University News Services Fleet Street London EC4

WHAT is the object of Information Technology? For me at the input end, it is the achievement of a system that will deliver his data to the recipient in the minimum of time with the minimum of information loss along the way. For the recipient, it should include a built-in method of ensuring that he is able to evaluate what he is getting.

Now, ask yourself - are the new technologies in fact delivering all this? Are they hell. In front of me is a news report that the nation may have to pay up to £3,000 million because of non-communication of a report issued in 1969. Horror stories of this kind surface almost daily. And please don't tell me that this has to do with "human fallibility", and is nothing to do with technology. There exists a technology of human communication.

Historically, there have often been such systems, generally invented under the duress of events. Ghenghis Khan - who has had a very bad press - invented one which enabled bands of nomadic tribesmen, not even speaking the same tongue, and fighting at night, to defeat the best armies of Europe.

It is natural for IBM to do this, particularly in the light of performance problems that have become apparent with the 3081. Not that the machine is slower than IBM claims - in some tests it is even faster - but unless the right peripherals are attached, and as far as discs are concerned that means the 3380, the machine cannot perform to its true potential.

Nonetheless, it means that the furore of demand which arose so suddenly when the original delays on the 3380 were announced five months ago is soon likely to be repeated.

The ability of IBM to give this priority to 3081 users follows the US government's granting of permission for the company to drop its sequential delivery policy, at least as far as discs are concerned.

Sequential delivery was forced on IBM as part of the 1956 anti-trust settlement, and the company is widely regarded to have stuck by this policy rigidly since then. But it must be remembered that during this time the company was under threat of another anti-trust action - the 13 year-long case with the US Justice Department which was dropped in January this year.

While this no doubt pleases all the actual and potential users of 3081 series machines, it may not be such good news for those 3033 users who have ordered 3380s.

But then that could be just what IBM wants. The carrot enticing people to move to the 3081 was improved price performance and more facilities and functions.

It could now be that the stick is a restriction on the supply of high performance peripherals.

GEORGE HAY General Secretary TEACH London WC1

Liveware File

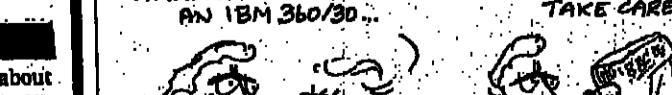
AMAZING WHAT TURNS UP AT THESE...



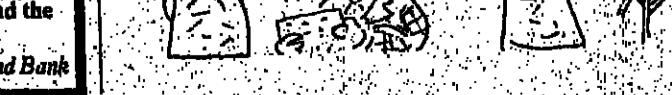
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by Andrew Thomas

No foolproof security procedure

"SECURITY is the antidote to nasty events that are not certain to happen. The combination of nastiness and uncertainty, coupled with the fact that most DP Managers are perpetually behind schedule, means that when it comes to priorities security gets short shrift."

So said Alan Smith, a speaker at Compact '82, sixth of the annual forums on computer audit, control and security organised by the Institute of Internal Auditors. Smith is Head of Management Services at Tootal and is also on the board of the NCC, where his special interest is all aspects of computer security.

He believes that computers are a means to an end, and that the emphasis in contingency planning should be placed on the systems, of which the computer is but a component, rather than on the physical integrity of the hardware, as is often the case.

But he claims that this first line is deficient in at least three major areas. Firstly, no defence is foolproof and many precautions contain a fallible human ingredient. Secondly, most precautionary measures involve compromise to some degree. For example, some access prevention systems involve cumbersome card keys or numeric keypads which are so inconvenient in practice that the doors the system is designed to protect are frequently wedged open so staff can get on with their jobs without being hindered.

But the most critical shortcoming of first line defence is that, no matter how competent the person

designing the security procedures, some means of defeating the system will remain.

For these reasons, a second line of defence is required for a procedure to follow should something untoward occur. Some problems are best left to the second line defence rather than attempt impossible expensive preventive measures.

While sophisticated uninterruptible power supplies can provide unbroken service in the event of a power cut, their cost and bulk often cannot be justified in a commercial environment.

Simpler, cheaper standby generators are usually adequate for most sites. That is, don't bother trying to prevent power failures; simply plan for alternative arrangements should one occur. Similarly, while it would be desirable to be 100% certain that your systems are error-free, the manpower and time re-

quired to achieve this will be extremely expensive.

Better to have skilled staff able to handle any failure they occur.

But, says Smith, there will always be some risks which will prove so tremendous should they come to fruition that this effort should be expended in a first line, preventive measure.

Fires, floods and explosions all come into this category. The severe upturns of interruptions caused by such events make their prevention important.

It is far easier to take extra defences than to design contingency plans for the single occasion that access control and fire prevention companies provide a package ready to bolt on to an installation. No need to be involved; just capital expenditure.

SMITH: "...the antidote to nasty events that are not certain to happen."

Disaster waits for no man — so contingency planning, although often time-consuming, should be a priority

WHEN it comes to contingency planning, there are no simple solutions, no quick and easy answers. Someone must work out exactly how critical the various systems are to the company.

There is no point in asking individual departments to do this — each area within the company will be equally sure that the systems run for them are of prime importance, and that the company will fold should their listings be half an hour late arriving on their desks.

The time-consuming, boring legwork required for someone to discover which systems are truly company critical can be off-putting, resulting in a standby plan being left until the person responsible "has time to do it". Unfortunately, a disaster waits for no man. It is no consolation to be told that the standby plan will be ready next

week if your premises have been reduced to a smoking ruin.

The introduction of gleaming new devices to prevent fires and unauthorised access is far more interesting and glamorous than plodding through long lists of computer systems and attempting to put some kind of relative priority on them.

Because of this many organisations believe they have done all that is needed to secure their continued existence once they have installed the latest micro controlled gadgets available.

It is vital that the driving force for the contingency plan is at least board level. Otherwise, the plan will be at risk from both the parochial attitudes of individual managers and a lack of enthusiasm on the part of the person assigned the task.

Once the company-critical systems have been identified, the following criteria should be judged. Is the system documentation adequate to permit someone who does not know the system at all to run it successfully? One should not assume that Fred who wrote it 10 years ago will still be around and able to resurrect it.

Is there a copy of the documentation held in an off-site location? Even the best documentation burns. Are there up-to-date copies of programs, JCL, and data? Are they stored in a secure location — either a fire safe, on-site or in a different building?

One manager of my acquaintance was unsure that the copies of critical files in the tape library, the second copies in the fire safe, and the additional tapes held at another office of the company were sufficient. Each week,

If your site collapsed, would there be business as usual?

he would take a fourth copy of the most important files home with him and keep them in his kitchen over the weekend.

It is hard to imagine that anything short of a global nuclear holocaust could interfere with such a belt, braces, piece of string, and superglue approach, but it is generally accepted that however detailed the contingency plan, something will have been forgotten.

Once you have checked these points, you should be in a position to say with some degree of confidence if the system is recoverable in the event of a total loss of the computer and the building (what we termed the "747 falling on the building" syndrome).

Once all the company-critical systems fall into the "recoverable"

category, put your money where your mouth is and test your contingency plans — you will have forgotten something, and it is better to discover the omission before the 747 hits.

Alan Smith divides contingency planning into two disparate functions — fallback and recovery. "Recovery is concerned with those actions that restore the user to normal operation," he says. "Recovery takes time — it may be a matter of seconds or it may be a matter of months. Fallback is concerned with those actions which take place during this time interval."

He divides the period following an interruption to a system into three time frames. Time frame one involves the user waiting for normal service to be resumed; time

frame two requires significant actions to be taken, while still assuming a reasonably prompt return to normal running; and time frame three covers periods which can no longer be deemed temporary — the 747 has landed on the roof.

The actual duration of these three periods will vary with the application involved. The computer disappearing out from under you, five minutes before payroll is due to run, will place a high degree of urgency on the system, thus shortening time frame one.

But for some systems, this first phase may last for several days before the survival of the company is called into question. One advantage of drawing up a contingency plan is that you may discover that the old system, which has been

running for years, is not actually required by anyone — it has been!

When some form of fallback becomes necessary, the system enters time frame two. The procedures used may range from a reversion to a manual system to the use of a duplicate hardware configuration at another site.

The usual arrangement for such standby is a reciprocal agreement with another organisation with similar hardware. One of the scheme's major drawbacks is the almost impossible task of maintaining the two installations in an identical state of modification, both hardware and systems software.

Machines which are in theory identical are often different in

ways so obvious that they will be discovered when they break in a heap.

Another problem with standby arrangements is the overlooked question of the surviving machine being capable of running its workload in addition to data-dismayed sibling. Could part run with double the workload?

When the time required to return to normal working is long that the degraded system will no longer be able to back up the file system.

Time frame three is entered if

it will usually mean that this is completely destroyed.

Despite the general scepticism

users regarding the feasibility

provided by their hardware

manufacturers, manufacturers are increasingly fast to respond to user needs.

Help from one of their customers will usually be able to

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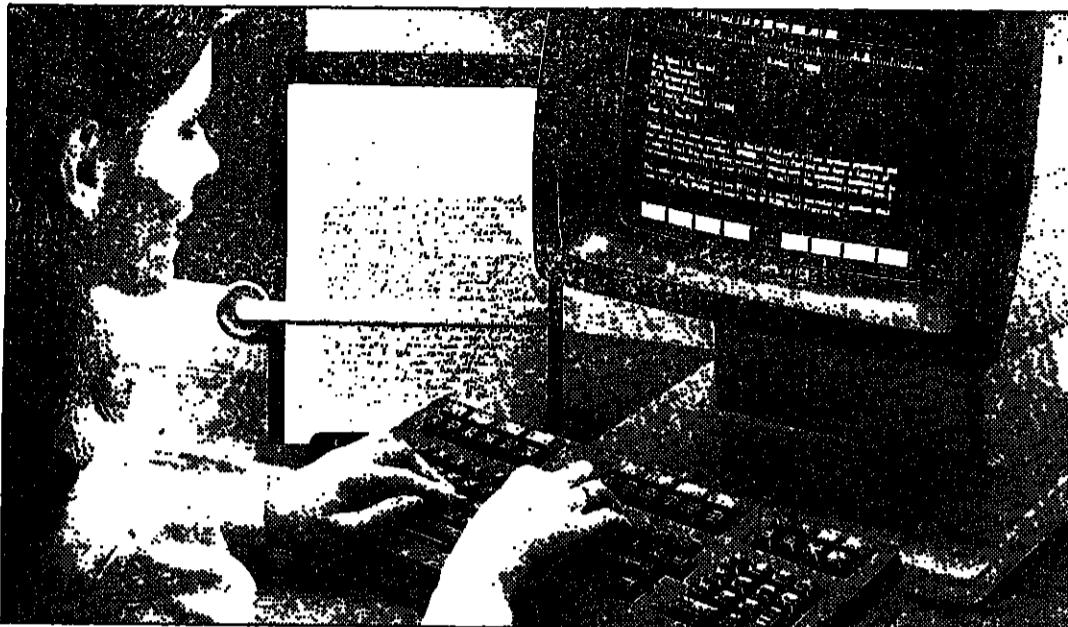
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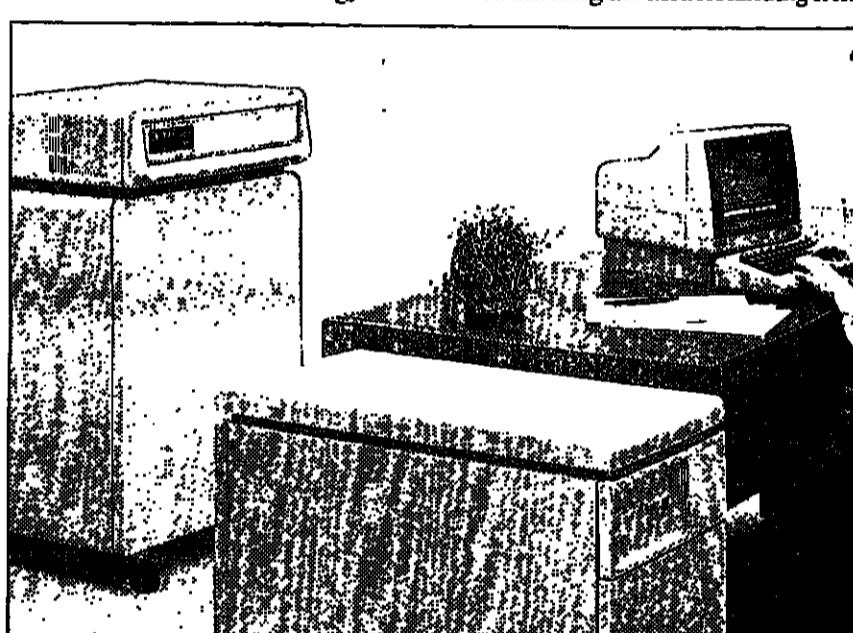
This manager's workstation gives business professionals easy access to the information they need for decision-making, without demanding an understanding of computers.



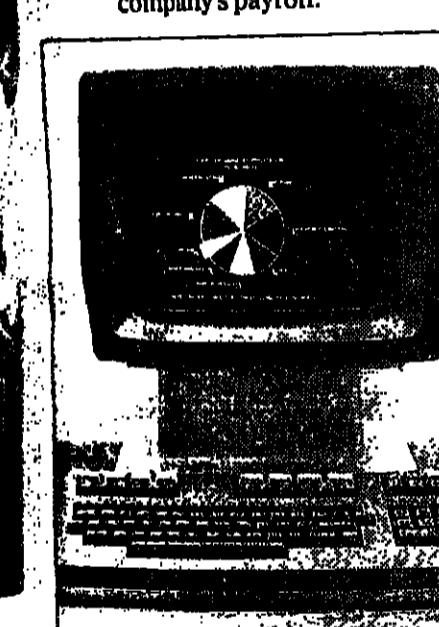
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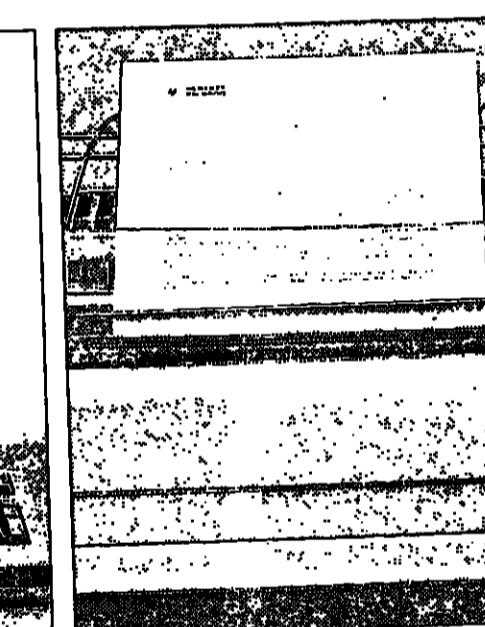
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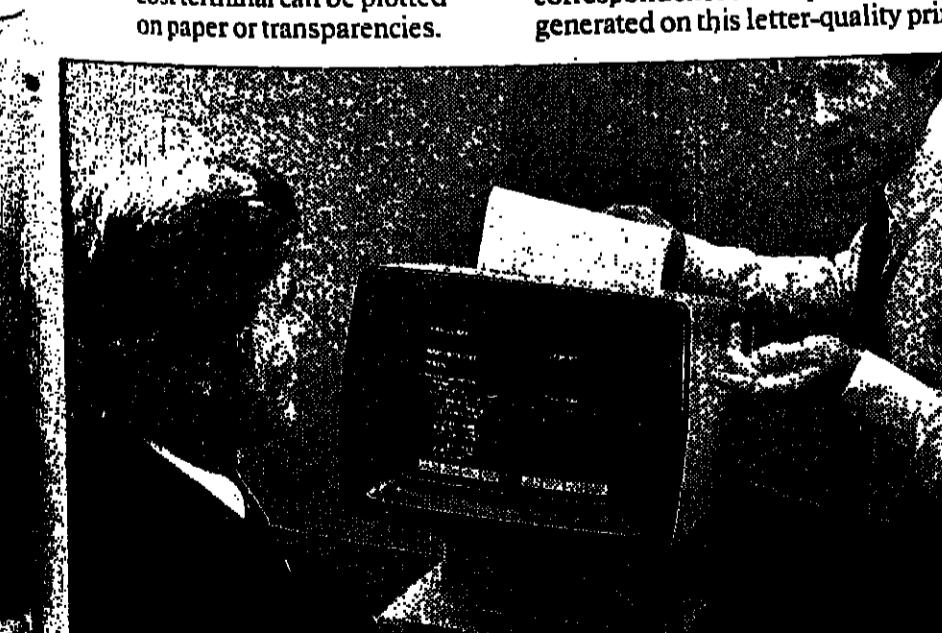
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CW882



Scan restructures board of directors

SCAN Data International and its main subsidiary Scan Computers has completed a reshuffle of senior staff, with Martin Baldwin moving up from managing director of Scan Computers to become deputy chairman of Scan Data International and chairman of all the subsidiaries.

Replacing Baldwin at Scan Data is Steve Russell, formerly MD of Scan Computers. He also becomes managing director of the group and Scan Computer Supplies.

Noel Atkins, sales director of Scan Computers has been made a full board director of Scan Data International. This appointment

was made to add marketing strength to the group board in readiness for future growth, says Baldwin.

Former subsidiary administrator Geoff Bridgeman has been promoted to administration director of the boards of Scan Computers and Scan Computer Supplies. Promotion also for customer support manager Barrie Corea, who becomes software director of Scan Computers.

Mike Davey has been brought in from Data 100 to become sales manager of Scan's Bristol office, which recently achieved its biggest order to date for 11 Texas DS990s from Dalgety Spillers.

NCR supports local community projects

THREE British Junior Chambers will each receive a £1,000 boost for community projects from computer manufacturer NCR, as winners of the company's British Junior Chamber competition. Entries came in from the UK's 40 Chambers, suggesting projects that would benefit their local communities.

According to NCR many projects aimed to fill gaps left by government spending cutbacks.

Northampton JC will spend its money aiming to make the public aware that most liquid medicines are damaging to the teeth. They will campaign through the local media, posters, leaflets and stick-



Texas Instruments has jointly set up what is thought to be the first apprenticeship scheme for computer service engineers, with Bedford College of Education. The company has so far spent £50,000 on development systems for the college. Two-year apprenticeships are being funded each year for a three-year course, which includes instruction at

ers and the project has the backing of local dental, pharmaceutical and medical authorities.

Lichfield JC will provide video cameras and ancillary equipment plus a management consultancy service to local secondary schools to record mock job interviews.

Students will also be given advice in letter writing, form filling and interview behaviour to better equip them for the increasingly competitive business of getting a job.

Ipswich JC is to survey 5,000 youngsters in its area on unemployment, leisure, authority and employment. The results will be computer analysed and measured against local authority plans.

Richard Davies, former director of Information Services and Equipment has joined DM England as videodata product manager.

■ David Parsonage has been appointed product marketing manager at Rediffusion Computers in Crawley. He joined the company in 1977 and was latterly branch manager of the Northern region.

■ Mike Blench has been elected to the board of CPU Computers, LSI's parent company. Blench is the executive in charge of LSI's computer systems and software development.

■ David Brown has joined Systems Resources as software product sales manager. He was formerly area sales manager at BOC Datasolve.

■ John Barnes has been named territory sales manager, national sales division, at Geest Computer Services. He was previously with AM Jacquard systems.

■ John Ing has been promoted to manager of international operations of Perles International's peripheral division. He joined the company in 1980 and since last July has been district sales manager, North Europe.

■ David Bone has been appointed production manager at Office Technology, OTL. He joins the company from Dicrol Electronics, where he was production manager.

■ Grant McEwan has been appointed marketing services manager at Transdata. He was formerly an account executive at PR consultancy Blair Bowden Associates.

■ Jeff Notz has been appointed sales executive at Compact Accounting Services. He will sell applications software for accounting and invoicing and the company's Compacapacit costing and estimating system.

■ Consultancy

A NEW computer consultancy has been formed by City of London chartered accountants, Hacker Young and computer services organisation, the Fraser Williams Group. The company will operate under the unsurprising name, Hacker Young Fraser Williams from Fraser Williams' offices in this country and in the US and Canada. Executive directors are Arthur Harvard, a partner in Hacker Young, and Ian Gold, a director of Fraser Williams (London).

the answer is – Telecomputing

If you have any further questions and would like to know more about our launch presentations in London and Manchester contact:

Lance Dorman (0865) 776688

TPS/TM The systems which are so much more than tp monitors

TPS/VM

IBM could have designed its own personal computer... Martin Banks wonders whether the company plans to do so

It's time to ask IBM a personal question or two

THE applications department of NEC Electronics (UK) formally ends the end of last year, lastly a project leader with the Space and Defence in Scotland.

Laird's career in applications began in 1967 when he joined National Engineering Laboratory at East Kilbride as scientific assistant. He stayed until 1971 before becoming higher scientific officer.

He then joined Burroughs

systems designer, going on to become senior systems engineer in 1977, following the achievement of an MSc in digital systems part-time study at Strathclyde University, he was promoted to section head. In this post he was responsible for the design of peripheral control systems and user architecture.

He joined Marconi in 1979 where as project leader he was involved with simulation work and automatic test equipment.

Transfer

FORMER senior director of Computer Resources Tony Richards

has become marketing director of United Computing's UK operation.

The company recently acquired the business interests of professional services and software products divisions formerly operated by Computer Resources Group.

The two divisions will be a sister company to United Computing's bureau services.

■ David Hills has joined Jarman

Systems as sales manager from Burroughs, where he was territory manager in the London area.

■ Ian Williams is the new

national sales manager for Automatic Revenue Controls. Also joining the company is Peter Morrissey, who becomes access control and security division manager.

NOW that IBM has elevated the personal computer business into the "real" world of computing by opting to produce such a personal machine itself, a question remains begged and as yet unanswered: why did it not produce a machine

begged and as yet unanswered: why did it not produce a machine

which could run IBM software?

IBM has such a vast stock of software all around the world that it seems strange that it did not attempt to capitalise on that base in some way. For some reason, IBM chose the Intel processor and therefore the software that automatically followed such a choice.

The next question, and possibly

the more interesting one, is

whether the current choice

precludes any alternative de-

velopments in the foreseeable

future. It would seem

wasteful to let what already exists

go unexploited.

wanting to keep the software market all to itself, is now actively encouraging third-party software producers to get in on the act and produce packages for its hardware products.

In terms of hardware, IBM

could do it.

There is, however, one slight

proviso on the subject of

hardware, and that is prompted

by the practicalities of software and,

more specifically, operating

systems. Not unnaturally, there is

a strong big-systems bias in this

particular area, and that means big

hardware systems have to be con-

sidered to complement it.

Now, there have been great

strides made in the technology of

memory components and systems,

but the requirements of some IBM

operating systems — MVS for

example — make them seem in-

significant. Such operating systems

require megabytes of memory just

for themselves, on top of which

must then come allocations for the

applications program and user

work space.

There are, of course, ways

round this problem, in theory at

least. One of those is networking,

and this is an area where IBM has a

strong presence. Unfortunately,

this presence is in the big systems

arena with Systems Network Archi-

tecture (SNA), which has

been around for several years now.

In addition, the company has the

5280 system, which to some extent

looks like a forerunner of the

360/370 type of desk-top system.

SNA, however, is an architec-

ture that is not only designed on a

grand scale, it operates on one as

well. It is not suitable for use in the

local networking context of a col-

lection of linked desk-top comput-

ers. IBM does not have an an-

nounced product in the area of

Local Area Networks, and in

accordance with its normal policy,

declines to speculate on what

might come in the future.

Though some announcement is

certain to come from the company

in this area at some time, it is likely

that it will have little application to

the idea of linked 360/370-type

machines running some form of

dispersed large system architecture

or operating system.

Though it is possible, therefore,

for IBM to produce the hardwa-

re for a desk-top 360/370 type of

machine — up to a point — there

seems little long-term validity in

the suggestion that it should.

But should IBM actually con-

sider such a move in the future,

and indeed, is such a move a

practical possibility?

As one of the biggest manu-

facturers of semiconductor devi-

ces in the world (if not the biggest),

and with one of the most comprehen-

sive and advanced manufacturing

processes, IBM is certainly capable

of producing the microelectronic

building blocks it requires for such

a machine. Indeed, some two years

ago, the company demonstrated

this specific capability by manu-

facturing an experimental circuit

that contained the arithmetic logic

unit of a 360 machine on a single

chip.

This was produced using the

company's then latest product de-

velopment in the semiconductor

industry.

AGM followed by RICOH ap-

plied for a patent on the

device.

AGM followed by the Universi-

ty of Cambridge applied for a

patent on the device.

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Keeping track of microsoftware

The International Microcomputer Software Directory. Imprint Software Ltd. Edited by John Graham and Roy Wyand. This directory is a brave attempt to tackle a task which is almost impossible. The speed at which the micro industry moves means that there are products almost certainly missed out, or some listed that are no longer available.

The international scope of the directory will make the job of keeping it up to date even more fearsome. There is a danger of spreading the net too wide and saying too little about too much.

Having sounded those caveats, there is a sure need for a reference

manual concentrating on microsoftware. The directory has certainly succeeded in amassing a lot of products between its covers.

The products are listed in three sections, by target machine, application, and (in most detailed form) by software house/publisher.

The sections are sensibly arranged to cater for the whole range of micro users: those who already have a machine; those who are keeping an open mind and want to start with a particular application which may dictate the hardware, and those who know the scene and want the goods of a particular software house.

The publisher promises some quality control in the form of de-

leting an entry for any product which fails to come up to standard, and it proposes to update the directory with quarterly newsletters, and offers further extension of the directory in the form of an online database.

The book falls down in practical usage largely on its signpostings. The sections are not clearly identified by any edge-markings as in telephone directories, page headings and numberings are infuriatingly self-effacing, and the contents listing so secretive that no page numbers are given at all.

The publisher promises some quality control in the form of de-

leting an entry for any product which fails to come up to standard, and it proposes to update the directory with quarterly newsletters, and offers further extension of the directory in the form of an online database.

The book falls down in practical usage largely on its signpostings. The sections are not clearly identified by any edge-markings as in telephone directories, page headings and numberings are infuriatingly self-effacing, and the contents listing so secretive that no page numbers are given at all.

The publisher promises some quality control in the form of de-

Claire Gooding

A colloquial approach to the use of Pascal

Programming Concepts - A Second Course with Examples in Pascal. William B. Jones. Prentice Hall.

THIS is an undergraduate text whose three-fold goals are an introduction to the fundamental algorithms all programmers should know, standard techniques of program construction and analysis and the necessary features of Pascal to express those styles which

could be annoying to some readers, as it was to me.

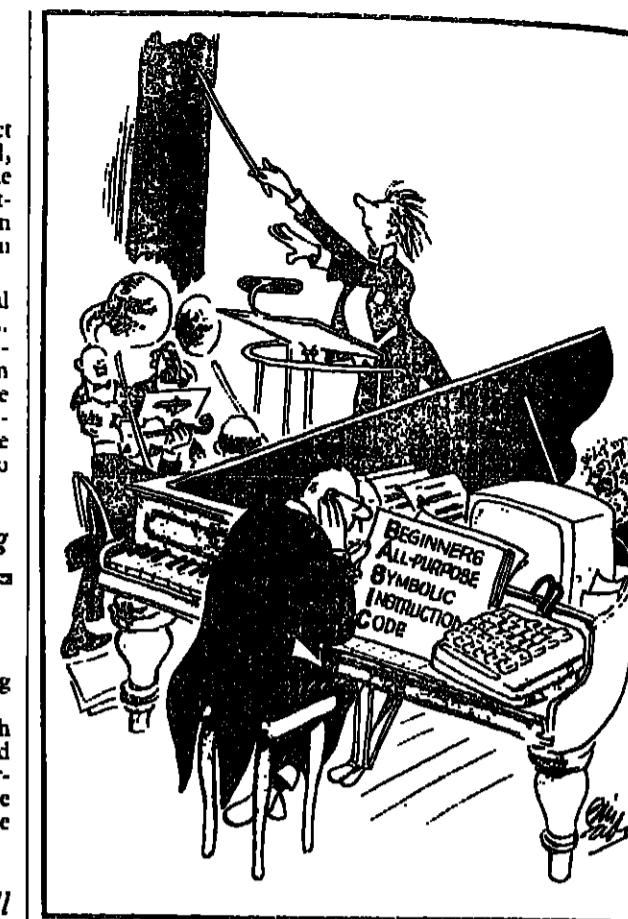
Pascal is covered in the first two chapters with chapter one providing an introduction but assuming familiarity with some programming language, preferably Pascal. Chapter two defines structured programming, introduces top-down design and Pascal procedures and functions with some reasonable problems for which

algorithms and programs are developed.

Subsequent chapters introduce data structure requirements involving stacks, queues in linear and linked representations and tree structures by using a series of problems involving searching, sorting, Polish notation and recursion.

Each chapter includes numerous illustrative programs and concludes with programming problems.

Tony Powell
Wolverhampton Polytechnic



A hitch-hiker's guide to the Commodore Vic!

Start with Basic on the Commodore Vic 20, Don Monroe. The Tiny Publishing Company.

IT IS tempting to describe this book as the Hitch-hiker's guide to the Commodore Vic, as it projects the same light-hearted air of unreality. For anyone who wishes to calculate the weight of their currency, or the price of a banana-warm, this book is a must. Addicts of Bill Tidy would also find it a good investment as his work enlivens most pages. A sample is reprinted above.

Beneath the frivolity, however, lies a serious attempt to instil a working knowledge of Basic into first-time users without frightening them away from computers for life. Don Monroe writes reassuringly for the hapless beginner, encouraging experiments which will obviously lead to disaster as a way of giving confidence by showing how they can be remedied.

Maggie McLennan

Ins and outs of buying a word processor

Choosing and Using a Word Processor. Kevin and Kate Townsend. Gower Publishing Co. £12.50.

WITH word processing being widely tipped as being the fastest growth area of electronic office products, the publication of Kevin and Kate Townsend's Choosing and Using a Word Processor is a matter of considerable interest. Along with Keith Wharton, the Townsends are probably recognised as being the most authoritative commentators and writers on word processing in Europe.

Basic word processing systems, as the book makes clear, were introduced by IBM in 1964. Successive developments include the introduction of floppy discs, daisy-wheel printers, visual display units, vastly improved software and the inevitable silicon chip.

Backing the book is a delightful series of drawings - this is one creative area in which the WP cannot (as yet) compete.

Alan Simpson

Pascal handbook

IN the April 8 issue we published a review of The UCSD Pascal Handbook, by Randy Clark and Stephen Kochler. This book is available in the UK from Prentice Hall International at Heathrow, London W1A 4SE, price £11.95.

Although best buys are not featured, it is possible to read between the lines. Certain suppliers, for instance, who did not respond to the author's request for information are named. This black

list includes IBM and ICL. In the meantime, the book firmly states that in no event would authors recommend even the least expensive word processor if it does not have the capabilities for communications.

Those suppliers receiving thumbs-up include Telecomputers of Oxford - a software house, and Wang - a bit

background, and Wang - a bit comprehensive range of equipment. Surprisingly, little attention is paid to training, apart from encouraging that operators should be encouraged to attend official training courses and that the manager or supervisor should be sent on a 10-day appreciation session.

When it comes to environmental conditions, the author overcomes the noise problem associated with the printer.

Essentially this is a practical book, covering the understanding, selection, use and financing of WP equipment and systems, and can be equally recommended for the WP novice or the professional user. Unfortunately, the book does tend to lean over backwards to be impartial.

The company does not regard videotex primarily as a public service dependent on orders from telecom authorities. It sees a vast market opening up for local private videotex.

To provide customers with tailor-made systems, Steria has set up a software workshop. This can deliver a made-to-measure version

Government and industry get together to create and develop the technology of the future... Jack Gee reports

French revolution in software will shape tomorrow

FRANCE'S software industry is booming. Over the past five years it has been steadily developing at an annual growth rate of 25%. Current turnover is close to \$2 billion, of which one dollar in five is earned abroad.

French software producers' revenue now ranks second only to that of their competitors in the United States. And even across the Atlantic more and more new customers are turning to the French.

In spite of the economic recession and the surrounding environment of contracting workforces, French software makers have created 17,000 new jobs since 1977. The industry now totals 38,000 employees.

The Socialist Government which has been ruling France for the past year is well aware of the software profession's value to an economy which remains sluggish in spite of the hopes set on nationalisation. Premier Pierre Mauroy said recently: "The new French Revolution is now being conducted by our computer software firms will shape the France of tomorrow."

President Valéry Giscard d'Estaing, who launched France's first Five Year Computer Components

of Videopac which can be installed and put into operation in under 24 hours, says the company.

Cap Gemini-Sogel is another aggressive and enterprising software firm which won its spurs in setting up the French Telecom Authority's Telematics Centre at Rennes, Brittany. It played a major role in launching the local test in this area of the electronic telephone directory which is soon to be given trials in other parts of France.

Cap Gemini also conducted the marketing survey for the Teléfét trial near Paris. It sells its professional videotex software under the brand name Multitel, handling access to databases, electronic mailbox services and transnational operations.

The firm offers four versions of Multitel. These are designed to run on hardware from IBM, CII-Honeywell Bull and InterTechnique. Cap Gemini has made sales to France's leading banks and mail order houses.

Cap Gemini shares Steria's belief that videotex is overwhelmingly superior to equivalent teleprocessing networks because of its cheapness. The small black-and-white Minitel terminals which French manufacturers have built for the electronic directory project cost only \$100. They also work perfectly for all other videotex applications.

The French are following the example of the weathermen in labelling hurricanes, by using women's first names to identify software services specially designed for municipalities and farming communities. Claire, which was launched at Grenoble in the Dauphine Alps, has been followed by a more recent system called Sophie.

Both have resulted from a partnership between CII-Honeywell Bull and G.CAM, a subsidiary of Caisse des Dépôts et Consignations, a state-owned financial body which provides funds to help ventures sponsored by the government and local authorities.

Sophie, which runs on a mini, is designed for operation by local government employees to provide the public with information about facilities ranging from health and housing services to entertainment. The French Telecom Authority expects about 50 videotex ventures of this type will be operating all over the country by the end of next year.

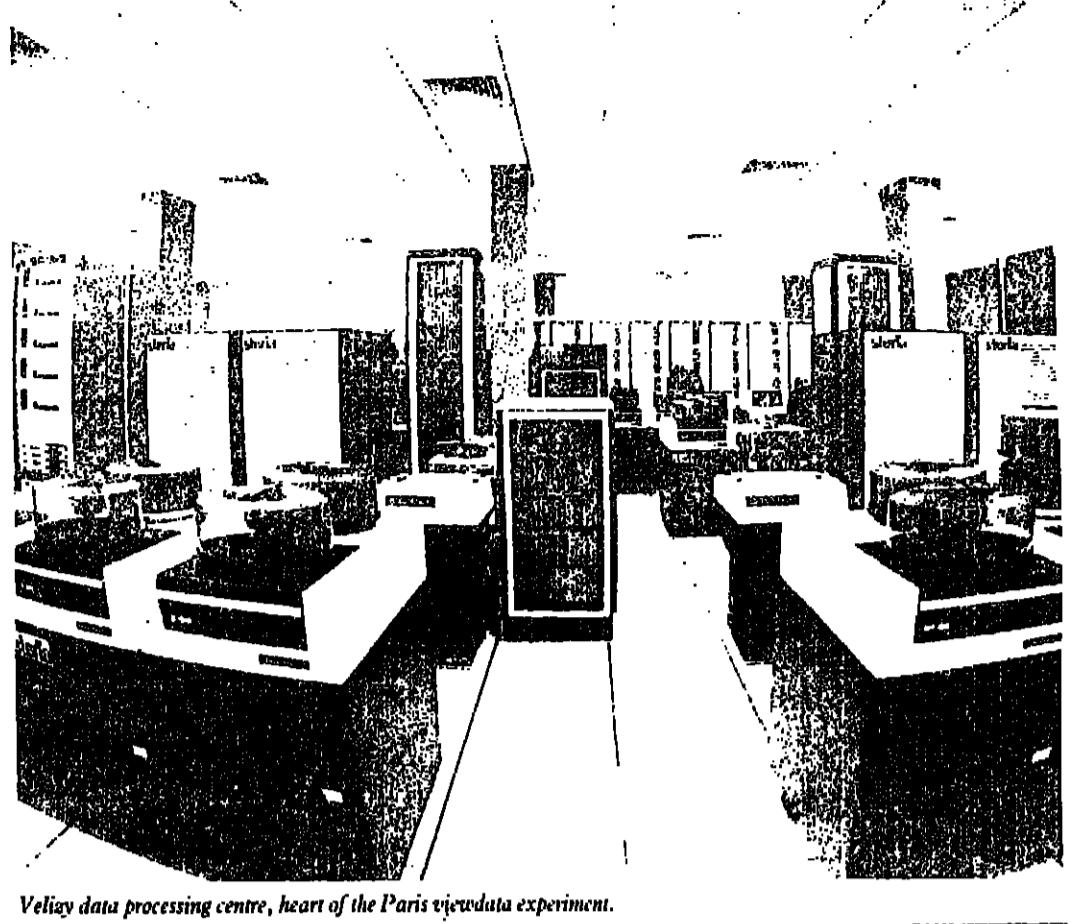
G.CAM claims its breakthrough with Sophie is due to the inventiveness of its engineers and the determination of its sales teams.

G.CAM is confident that Sophie has a promising future on the international market because of its technical reliability and its conformity with the national regulations of potential clients.

Steria calls its videotex package Videopac. Basically, it performs the function of Prestel's Gateway, handling calls from subscribers and connecting them to the appropriate privately-run computers to access the services they select from the index pages. The Videopac centre manages databases, handles subscribers' requests and processes and records all the transactional operations which they ask for.

The company does not regard videotex primarily as a public service dependent on orders from telecom authorities. It sees a vast market opening up for local private videotex.

To provide customers with tailor-made systems, Steria has set up a software workshop. This can deliver a made-to-measure version



Vélizy data processing centre, heart of the Paris videotex data experiment.

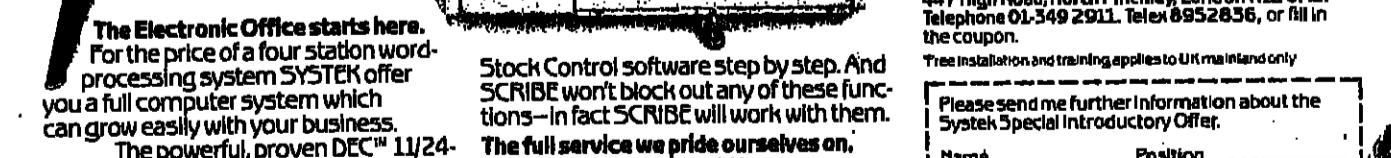
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SALARY NEGOTIABLE

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Experience must include previous involvement in the implementation of either DL/1 or IMS in an IBM 370 or 4300 series installation. Specific database background is likely to be as a designer, rather than an analyst. The person appointed must understand the structure and technicalities of DL/1 or IMS.

The company is well known and occupies modern offices in a pleasant town in mid-Essex. In addition to the salary other benefits include a relocation package.

The installation currently supports an IBM 4341, using OS/VSI and VM/CMS. With the implementation of DL/1 and CICS significant systems upgrades are planned, as well as the major development of new company systems.

Project Leader

This position is to be filled by a person with good systems analysis and project control experience, capable of leading a small team of analysts and programmers. All systems will be in the new development area, making use of the DL/1 database facility and CICS.

For further details, a fact sheet and application form, please telephone (24 hour answering service) or write quoting ref: CW111-21.

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Hardware Q.A.

Cambridgeshire: Salary to £12k

A leading supplier of Hardware and Software Products has an immediate requirement for a Hardware Quality Control Manager. The company's rapid expansion programme has created this new position. Suitable candidates will be expected to have extensive knowledge of systems logic design and have the ability to resolve technical queries and production problems between Silicon Fabrication Engineers and Systems Design Engineers. Ideally, candidates should have current hardware quality assurance experience gained within a micro- or mini-com-

puter environment.

Ref: U/J/B/A

X25 Designers

N.W. England/U.S.: Pkg to £15k

One of the world's leading suppliers of communications equipment has an urgent requirement for a number of X25 specialists. It is essential that all applicants are familiar with the physical, data link and network layers of X25 and have worked in a communications environment for at least four years. Of special interest to our clients will be those respondents who are also able to offer

Ref: L/I/B

Industrial Control

Inner/Greater London: Salary to £15k

A London-based Total Systems Supplier has a number of vacancies for Applications Engineers and Project Leaders. For the more senior positions suitable candidates should already have had responsibility for system hardware procurement, installation, commissioning and software package purchase. For the less senior positions, applicants must be fluent in either a high level language such

Ref: L/I/C

Cobol Programmers

W. Home Counties: Salaries to £11k

able, although not essential, that you have some experience in the design and development of small business systems, e.g. stock control, payroll or order entry. Opportunities for career development are excellent and applicants who demonstrate management potential will be considered for the positions of Team Leader.

Ref: L/I/B/D

Real-Time Applications

London/EEC: Salaries to £14k

be expected to have had exposure to a leading mini- or micro-computer. Application areas of interest are: Data Communications and Networks, Message/Packets Switching, Process Control or Defence. Candidates who demonstrate management potential will, of course, be considered for the more senior positions.

Ref: L/I/E

Micro Dev. Engrs.

N. Home Counties: Salaries to £11k

you should offer fluency in an Assembly language. Working as a member of a multidisciplined team you will be involved in the development of microprocessor-based computer hardware. Individual requirements will, of course, be considered for the design or implementation stage in the UK, Europe or USA.

Ref: L/I/E

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Central London: Salaries to £14k

A highly regarded supplier of Hardware and Software Systems is seeking a number of Data Communications and Telecommunications Consultants for its Central London office. Successful candidates, who should possess at least one degree in a scientific discipline, must be fully aware of developments in the field of Office Automation. Applicants should have been responsible for the definition of the structured and

Ref: L/I/C

Banking Applications

City: Salaries to £14k

previous programming experience in COBOL or an Assembler language. You will be actively involved in the design and development of several new real-time-based systems. Of particular importance will be the excellent opportunities to gain management experience within a highly motivated organization. Ref: L/I/H

Ref: L/I/G

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(B444)

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(B448)

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*Unless you are applying for the above position, please do not write to us.

(B442)

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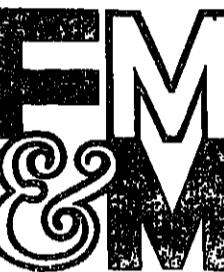
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(0357)

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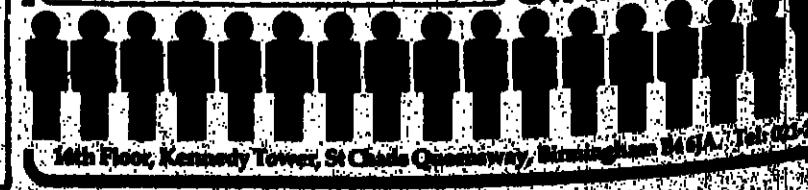
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The Board has recently installed an IBM 4341 computer and will be making extensive use of CICS. Therefore we require additional programming personnel who will contribute strongly in this area.

It is essential that candidates have at least two years' solid Cobol programming experience along with a proven knowledge of C.I.C.S., showing a potential leaning towards analysis.

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For further details and an appointment, please write to Mike Carr in Dublin or contact Eddie Howard in London.

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(B416)

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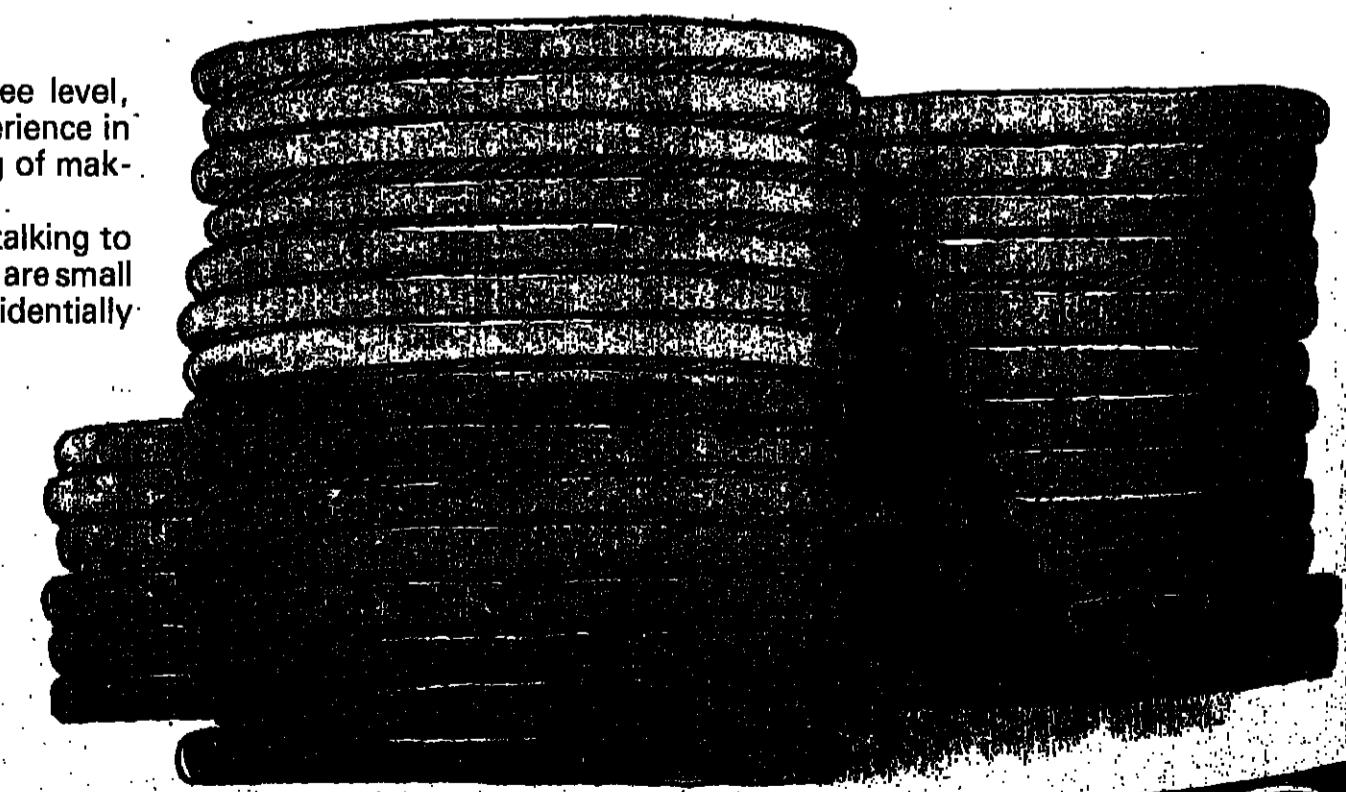
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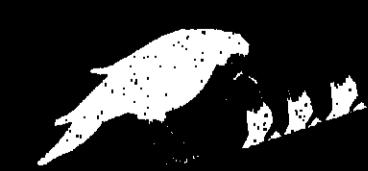
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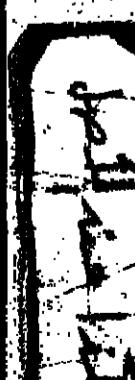
Co-ordination and manipulation of software on the host computer prior to delivery either to customers or the Testing Group.

Implementation (Ref TS3)

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There is at least one and sometimes two positions available in each group and all posts require knowledge of an IBM environment using TSO/SPF. The type of candidate most likely to be considered will have had a Systems Software background rather than applications and if you have been involved in designing software then you may have a further advantage. Find out more by contacting me at the address below.

Contact: Tony Staples,
JAMES BAKER ASSOCIATES,
International Personnel Consultants,
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FTB

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Operating in the field of information technology products and utilising Zynar local area networks, together with IBM systems 23 and 34, the main emphasis will be on:-

- * Micro based banking Systems
- * Multi-functional IBM based retail packages

Consultants will be involved in all aspects of project development from feasibility through to implementation, including client negotiations and sales support.

Systems are developed in PASCAL although there is need for skills in RPG II and BASIC.

Excellent career opportunities based in a picturesque part of Royal Berkshire.

Contact:- David Hendry

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Telephone: Staines (0784) 59247. Telex: 8814148

JBA

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Home Counties to £15,000 + relocation

If you would like to apply your knowledge to a wide range of software products then this is an opportunity to join a large multi-national organisation dedicated to the utilisation of the latest state-of-the-art technology.

In order to achieve this goal a specialised group has been formed and its major mission is to define the methods to be used in designing, implementing and controlling new Software development and to define new Software tools to support those methods.

We are looking for someone with a background in some of the following: Quality Assurance; Project Control; Software Metrics; Measurement techniques; Configuration Management; Defect Removal techniques or Standards with an overall knowledge of the Software development life-cycle.

This is a senior post involving a great deal of contact with Senior Management and programming staff.

A salary and benefits package befitting this size of organisation is offered as well as frequent opportunities for overseas travel.

Contact: Tony Staples
JAMES BAKER ASSOCIATES
International Personnel Consultants
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Complete the coupon and return to
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Type of Transport Date of Birth

Current Position (Contract/Permanent) date

Salary/Rate

Position Required (Contract/Permanent) date

Salary/Rate

Notice Required/Date Available (delete)

Areas Preferred: First Choice

Second Choice

Experience to date: (Last Position First)

Company Name From To Duties and
and Location Mth/Year Mth/Year experience

.....

.....

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Date Signature

Reg. No. DATE

OPS MANAGER

City £12K + Car ++++
Management and Programming experience? 28+? Enjoy working in a fairly hectic environment? Head a small team on a 4341 DOS/VS Power Site. Large Company. CW/1077/DF

SNR OP - 4 YRS EXP.

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Excellent career progression - large co. Young team. 3 shift pattern. CW/1092/DF

JNR OPS

City £6.5K
Min 6 mths exp. PDP 11/70 under IAS or RSX. Comms/customer liaison useful. 9-5 only. CW/1089/DF

Call Diana today on 01-437 3942 regarding above requirements.

TEAM LEADER

London £10,000 (neg)
We are an internationally recognised Systems house, currently involved in the recruitment of an experienced person to play a key role in a major new project.

It is essential to have a sound background in COBOL programming coupled with supervisory skills and proven design ability. Knowledge of Banking Systems and/or Honeywell Level 8, would be a definite advantage.
For further information please contact our advising consultant Janet Chilvers on 01-437 3942.

Babbage

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Lincoln Model House
32/34 Great Marlborough Street
London W1V 1HA
Telephone: 01-437 3942

ANALYSTS/PROGRAMMERS HEWLETT-PACKARD

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ASSOCIATES**

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Our Client is a leading software house specialising in the marine and re-insurance field utilising Hewlett-Packard computer systems. Due to increased demand for their services they now require additional junior and senior computer professionals to work in analyst/programmer or software support roles.

The minimum requirement is 18 months commercial experience in BASIC, SPL, FORTRAN or any other block structured language, together with a good academic background. Any knowledge of Hewlett-Packard systems and software would be advantageous but not essential as training will be given where necessary. Candidates can expect a high degree of client contact and must therefore be professional in both appearance and attitude. Some travel will be required between the Company's City office and their head office based in an easily accessible part of South Buckinghamshire.

In return our Client offers an excellent starting salary and package which includes an annual bonus, flexitime, pleasant working conditions and company car scheme. If you are self motivated and looking for a challenge in a dynamically expanding environment contact Apex quoting ref. MH/04 for further details.

Apex

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01-404 4821

Systems and Software Engineer

Salary Negotiable Rural South Midlands

A major engineering company, having successfully branched into automated testing equipment for industry, is expanding the specialist DP Department and has asked BLACKWOOD ASSOCIATES to assist in the recruitment of some additional Systems and Software Engineers.

The successful applicant will join a small team working on real-time systems and will be involved from the initial hardware recommendations, through software programming, to integrated testing of hardware and software.

It is essential that applicants should have the ability to communicate effectively with client users, a knowledge of engineering procedures and preferably experience of a high level language in real-time applications.

Generous relocation assistance will be given where necessary.

Contact Theresa Whitty on 021-233 2921,
quoting Ref. SE104.

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UNIVAC 1100 DMS, DPS, COBOL
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IBM 4331 MACRO CICS OS PROGRAMMER 3 months.

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65699 or 69839

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SWITZERLAND**MICROTRONIC SOFTWARE PROGRAMMER**

Our client is introducing a new high-level language for large scale Software production. An additional programmer is required to develop Software tools, debugging systems and utilities.

Successful candidates should have a degree in Computer Science, 2 years' of IBM or UNIVAC, used modern high-level language and have been involved with large Software development projects.

Ref CW 10/1

SATELLITE COMMUNICATIONS ENGINEER

A Software engineer is required by our client to join a small team developing this new and very exciting area of communications. Candidates should be in their mid to late 20s, a background degree in electronics or related subject, 2 years' experience of assembler plus a high-level language and ideally a mixture of PDP11 and INTEL experience. Ref CW 10/2

SCIENTIFIC PROGRAMMERS LONDON

An expanding division of a well-known Software House have immediate openings for the following projects:

Real Time Simulation, Process Control, CAD, Command + Control and Mathematical Modelling. Successful candidates should have one or more of the following: Minimum 2 years' Software Programming, PDP11, RSX11M, VAX 780, ASSEMBLER, CORAL 66, RTL2 and FORTRAN.

Ref. CW10/3

SWITZERLAND**GERMAN SPEAKING SOFTWARE ENGINEERS**

A major communications company require additional German-speaking programmers, to develop new communications Software. Candidates should have a minimum of 2 years' Real Time experience in this field.

Ref. CW10/4

HARDWARE ENGINEER LONDON

Satellite communications is our client's speciality. They currently wish to employ a Hardware Engineer with a minimum of 3 years' experience in Industry. A degree background is necessary plus some involvement in Software Hardware experience of TTL and ECL design on micros would be ideal.

Ref. CW10/5

ASHFORD SOFTWARE ENGINEERS

A company dedicated to Communications Systems is currently seeking engineers with a variety of the following:

- IBM/ICL PROTOCOLS
- DEC/RSX11/VAX
- CORAL
- NETWORKS
- EMULATORS
- X25
- DEFENCE
- INTEL 8086
- PROCESS CONTROL

Ref. CW10/6

FRANCE IBM SYSTEM PROGRAMMERS

One of France's largest Computer Services Companies have openings for IBM Systems Programmers to work on a variety of our client's installations in a Systems engineering role.

Knowledge of French would be helpful, though a willingness to learn French is essential. Technical experience must include a minimum of 2 years' MVS experience plus related Software Tools.

Ref. CW10/7

OPERATIONAL RESEARCH PROGRAMMERS LONDON

Our client's London-based operational Research/Scientific Systems group is currently seeking programmers with the following expertise:

- FORTRAN
- IBM
- MVS/TSO
- Honours Degree
- Min. 2 yrs' exp.
- Financial Planning

Ref. CW10/10

SWITZERLAND SENIOR SYSTEM ENGINEER**DATA/PACKAGE SWITCHING**

An experienced Systems Engineer is sought by our client to develop Data Switching/Package Systems switching from design to implementation.

Candidates with the following experience should apply:

- Degree, preferably MSC
- Minimum 5 years in Real Time
- Minimum 3 years in Telecom
- Direct experience of Design and Implementation of High Speed, Data Switching, involving CCITT recommendations X21 and X25
- Experience of Local Area and private networks, preferably public synchronised data switching
- High level languages i.e. ALGOL, CORAL, PASCAL or CHILL

The successful candidate must be self-motivated able to work on his or her own and adapt to modern QA Techniques.

This is a highly responsible position carrying job satisfaction and generous remuneration for the right level of experience.

Ref. CW 10/12

COMMAND & CONTROL LONDON

One of the largest International Software houses with their headquarters in London have a requirement for Software Designers with a minimum of 1 year's experience in Real Time Systems Design, candidates should have a degree plus experience in one or more of the following:

- Defence Systems
- CORAL
- Mascot
- VAX
- INTEL 8086

Ref. CW11

All the above appointments involve permanent positions and carry a wide range of salary and conditions dependent on location and experience. In the first instance please send us a copy of your CV (alternatively telephone for an application form) so we may discuss your application in confidence with our client on your behalf.

DATAMATICS
RECRUITMENT SERVICES
01-399 9183

Datamatics, Freepost, Surbiton, Surrey KT6 5BR

DATA EXCHANGE/TELECOMMUNICATIONS

A London based consultancy require experienced candidates with a minimum of 4 years telecommunications experience, to work in an English speaking project in Italy or Spain. Successful candidates will be expected to become Team Leaders after a fairly short period. Experience with System 12, CHILL, ASSEMBLER, FORTRAN, EBM/TSO and networks would be ideal.

CW 10/1

DATA PROCESSING

Our client applies traditional engineering disciplines to Software Design and Production. Their applications include Weapons Guidance, Space Communications, Mathematical Modelling and Systems Simulation. Candidates with compatible experience to the above applications will gain a remarkable breadth and depth of knowledge, not just on a theoretical basis but through practical experience, and close involvement in some of the most advanced Real Time Systems anywhere.

CW 10/2

DATA PROCESSING

Our client, a growing Computer Manufacturer, is seeking candidates to interface between Marketing and Systems Design. Candidates should have a technical background including 2 years programming and must be able to communicate in English both written and verbal, and have a desire to become involved with technical writing. Our client's business involves the latest technology including Micro Processors, Data Communications and Local Networks.

CW 10/3

DATA PROCESSING

Our client is acknowledged to have one of the world's foremost Research and Development establishments in the field of Telecommunications. They are currently developing a Digital Exchange for office and factory use. They wish to recruit Software Personnel who like working in relatively small projects, with a minimum of supervision and enjoy exposure to hardware. Candidates should have a Degree, 2-4 years experience of Real Time Software Development preferably in Telecommunications.

CW 10/4

DATA PROCESSING

One of the UK's largest Systems Consultancy and implementation organisation offers an exceptional combination of involvement, experience and commitment in a number of specialised application areas. They are looking for System Engineers to undertake an initial assignment in Europe working at the design stage of a Real Time project. Candidates should have:

CW 10/5

- A minimum of 5 years experience
- Specialised knowledge of Fire Control Systems
- Guidance systems
- Radar/Sonar
- Navigation or EW Systems

SALES SUPPORT

With the signing of another large military contract, our client is urgently seeking Systems Engineers to become involved in Technical Support. Ideally candidates will have a Degree or an education from within the services. A number of candidates are required to become involved in the following:

CW 10/6

- Pre & Post Sales
- Sales Schedules
- Proposal Writing
- Project Management
- Technical Control
- Commission

Successful candidates should enjoy combining a Software Engineering background or military applications with technical support and customer contact.

CW 10/7

SWITZERLAND**QUALITY ASSURANCE**

One of our clients requires an experienced Software Engineer with recent involvement in quality assurance. The successful candidate should be experienced in writing and enforcing standards. Candidates should have sufficient German to communicate within a German Speaking Project.

CW 10/8

There is also an additional opening within the same project for a Quality Integration and testing position. In this case, candidates should have extensive experience of Testing, Documentation, Implementation, and Commissioning of Customer Sites.

CW 10/9

SYSTEMS CONSULTANTS LONDON

Our client, a leader of International Business Communications, requires additional Systems Consultants to work from their London base with occasional overseas travel possible. Systems Consultants will be involved in System Design for a variety of industries using new technology involving video communications on Real Time Systems.

CW 10/10

Candidates should have experience of DEC, VMS or RSX11 ability to design Software for a wide range of terminals and networks.

CW 10/11

DATAMATICS
RECRUITMENT SERVICES
01-399 9183

Datamatics, Freepost, Surbiton, Surrey KT6 5BR

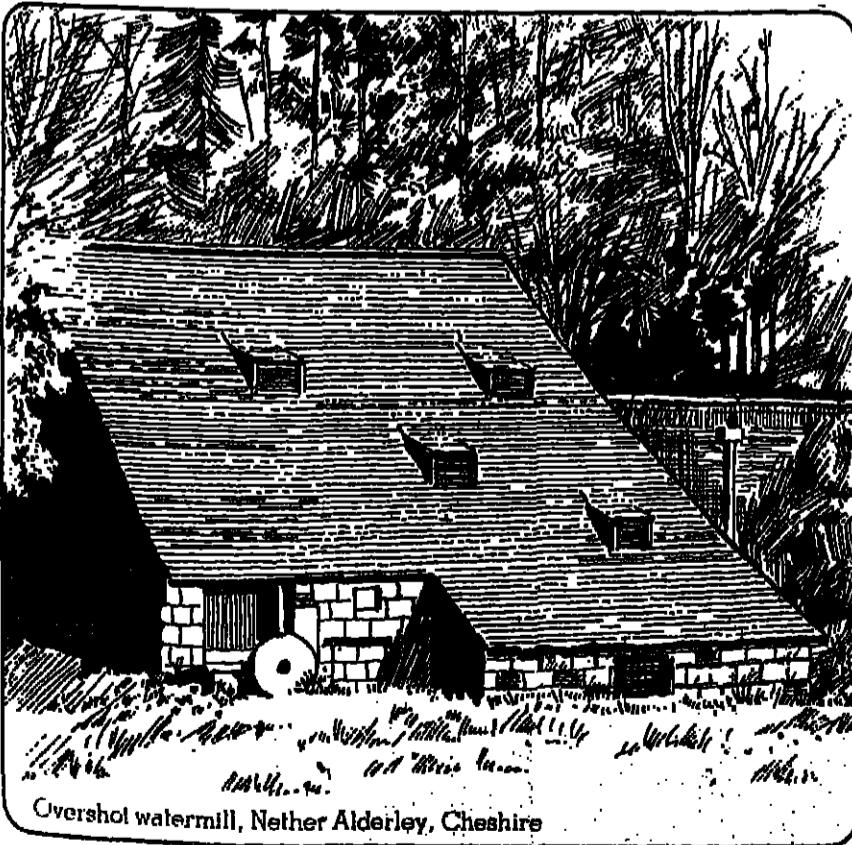
FIELD ENGINEERING - SOUTH LONDON**BRANCH MANAGERS****£13K + 2 LITRE GL**

The Company offers a most comprehensive benefits package, but more important is the growth potential in an expanding, progressive and international environment.

If you can fulfil this challenge, then I would like to meet you for an initial informal discussion. Please telephone, in confidence, JEFF BOWMAN, either at the office (0905 28469); or at home, evenings/weekends, on 0905 67457.

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+benefits**

THE POSITION

There is a vital and continuing need to provide data-communications and networking support. The SYSTEMS SPECIALIST would work within a small team whose responsibilities include:

- Network Design.
- High level network trouble shooting.
- Provision of network control procedures for the Division.
- All aspects of datacommunications software for the various machines.
- Evaluation of terminals.

EXPERIENCE REQUIRED

Preferably five years experience of data-communications and networking and an aptitude for systems programming. Additionally experience of Local Area Networks, evaluating terminals and at least one of the Divisional computers would be an asset.

BENEFITS

In addition to the salary (currently under review), other benefits include up to five weeks holidays, profit sharing and bonus payments, an attractive relocation package and good career prospects.

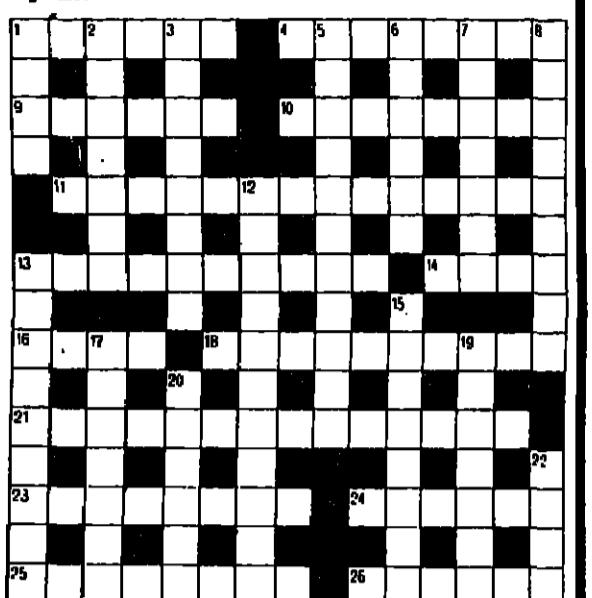
If you want to know more ring Alan Hudson on Chelmsford 861710 or Dave Atkinson on Macclesfield 616860, between 7pm and 8pm, or contact Tony Roberts for an application form at the Nantwich address.

OCC Computer Personnel
5 Hospital Street
NANTWICH
Cheshire
(0270) 627 206

CROSSWORD**Prize Crossword No 28**

Compiled by Alec Robins

A prize of £10 will be awarded for the first correct entry opened. The second and third solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Quadrant House, The Quadrant, Sutton, Surrey, SM2 5AS, by first post Friday, May 14. Please use a halfpoint to complete the crossword, and include a telephone number at which you can be reached during the daytime.



Name.....(Miss, Mrs, Ms, Mr)

Address.....

Telephone.....

I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed Date

ACROSS

- Sarah in the morning is given one sausage (6)
- A good sport to face the bowler and hostile missile (8)
- Mother gets request for figured material (6)
- Throughout existence I was conscious of falling short in desire (8)
- Below the others? The king isn't, commonly, restricted (5,9)
- A Scot, one having to live right next to a fellow Scot (10)
- Fancy house in which there's usually a sock (4)
- Urgent message about Party's leader giving bribes (4)
- Still a type of debate with nothing to vote on? (10)
- Ask me in Ma - I flog sensational indigestion potion (4,2,8)
- Lotion makes small car return in fast time (8)
- Is skulking inside depressed, cast off (6)
- Unfolds drama in a Norfolk town (8)
- Silver for spy - that's about right (6)

DOWN

- Notice very big rising, making a splash? (4)
- Disappointing outcome of French seen in their newspaper (2,5)
- Draws into error with a wry sad smile (8)
- Restoring to former position, and setting forth under control (11)
- Shout about the girl bringing fruit (6)
- Fond of good literature? All right, I dip into rubbish (7)
- A tense condition, intoxication? (9)
- Mayor's men on rampage - it may help to get one's own back (6,5)
- Met a fool - upset me - dripped blood (9)
- Deduce one alternative is poorer (8)
- Wooden stakes Dad's put round the heather (7)
- An interesting incident is written into a lyric poem (7)
- Ceremonious, because master precedes the sovereign (6)
- A fool, by the sound of it, do need work (4)

RULES AND CONDITIONS

1. Each competitor may submit no more than one entry.
2. The competition is open to all readers of Computer Weekly with the exception of the staff of HPC Business Press Ltd., say printers employed by them or the near relatives of any such staff.
3. The solution of each puzzle will normally be published in the issue three weeks after the puzzle has been published.

4. Winners will receive their prizes during the month following the competition.

5. The decision of the editor on the interpretation of the rules and conditions and on all matters shall be final. No correspondence will be entered into.

SENIOR SYSTEMS PROGRAMMING OPPORTUNITY IN LEEDS

The Leeds Permanent Building Society is seeking to recruit an experienced Senior Systems Programmer to join the Management Services Team at its Leeds Head Office.

The Society has a large computer centre in Leeds and terminals in more than 300 branch offices throughout the UK. The MVS operating system supports both IBM 3031 processors at the centre and plans are well advanced for major changes to the central site and on-line systems.

SENIOR SYSTEMS PROGRAMMER

A vacancy exists for a Senior Systems Programmer with several years sound experience of large IBM computer installations. A detailed understanding of MVS is particularly relevant. A knowledge of CICS, telecommunications software and data base techniques is also applicable.

This is an excellent opportunity to extend technical and management expertise. The successful applicant will play a leading role in this demanding and progressive installation.

BENEFITS

A competitive salary is offered and training will be provided on a continuing basis. A wide range of additional benefits include a staff mortgage scheme, pension, life assurance and sickness schemes, subsidised staff restaurant, and sports and social facilities.

Interested applicants should write briefly or telephone Leeds 38181, Ext. 430 for an application form.

J. Clark MBM,
Personnel Manager,
Leeds Permanent
Building Society,
Permanent House,
The Headrow,
Leeds LS1 1NS.

Enquiries will be treated
in strict confidence. Envelopes
should be marked 'Staff-Confidential'.



PERMANENT SOCIETY

SALES EXECUTIVES**SALES EXECUTIVES — MICROS**

To sell Z80 based micro and software packages. London area. Sales experience essential. Salary £11K. 2 litre car.

SALES EXECUTIVES — MICROS

Selling experience essential not necessarily in computers provided by micro knowledge. London & SE. Salary & Guar £12½K. Car.

SALES EXECUTIVES — WP

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SALES EXECUTIVES — MINIS

Two experienced mini Sales Executives needed SE England & Leeds. Salaries £11K. Car.

INFORMATION SERVICES AND SYSTEMS

2 Sales Executives (1) Information services to Media etc (2) Systems to Publishers etc. London. Salaries £10-13K. Car.

Phone for an appointment

SDS CONSULTANTS

COMPUTER PERSONNEL CONSULTANTS

AFTER 7.30 p.m. & WEEKENDS 0444 458804

SALES APPOINTMENTS BIRMINGHAM and BRISTOL

A rapidly developing systems group is looking for two ambitious sales executives to sell software services from its Birmingham and Bristol offices.

Candidates should have experience of selling within the computer industry and a good track record of achievement. A background of hardware, or Bureau selling would be an asset.

The company has an excellent track record in marketing its services and past clients include many household names. Company growth has been rapid and further expansion is planned.

An excellent basic salary plus commission is offered and should lead to a package of around £20,000 pa on quota earnings. A company car and full benefits package are also provided.

If you have the commitment to succeed and a desire to work within a small enthusiastic sales team then we would like to hear from you.

To arrange an informal interview, contact Chris Morrow on 01 837 9451 (business hours) or 01 267 9409 (after 7.30 pm).

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Perhaps sales management, if you have the talent and inclination. On the other hand you could increase your experience, income and market value by moving into a computer manufacturer. The days of the "Pioneers" are virtually over and so the demand for people who are able to sell "Solutions" as opposed to "Tools" is increasing. Of course, the transition is not simple. First, you must have proven sales ability. Then Sales and Marketing Recruiters, the industry's leading sales recruitment specialists, will assist you in finding opportunities, cost plus, plus the professional skills to protect your interests and evaluate your career potential.

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Williams (0543 56612).

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THE UNIVERSITY OF MANCHESTER
Department of Computer Sciences
RESEARCH ASSOCIATE

Applications are invited for this position on a three year project commencing September 1st to work on fundamental research and development methods for real-time systems. Participants should be post-doctoral level or equivalent with some relevant industrial experience. Salary range £6,700-£10,750 pa. Applications, with curriculum vitae and names of two referees, should be sent to Dr C. B. Jones and Dr J. B. Baringer, Department of Computer Sciences, The University of Manchester, 146 PRINCE'S BUILDING, MANCHESTER M13 9PL. In formal university and company interviews further details also welcome. Closing date for application: June 11th, 1982.

**£19,000-
£25,000**
+ car + usual benefits

Call 01-235 8060, ext 252 to discuss those jobs in complete confidence. Or write to PA Sales Selection, Hyde Park, 66a Knightsbridge, London SW1X 7LE. (01-580 2222)

(01-580 2222)

IMMEDIATE OPENINGS

HP300
COBOL PROGRAMMERS for Central London

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IBM SYSTEM 34
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- Cobol Programmer for Winslow Area £10,000

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Special systems in COBOL, BASIC, PL/I, or ASSEMBLERS
Consult, consultancy (mobile independent)

If you have good qualifications/3 years relevant experience, plus a good knowledge of customer consult, then ring for details of the benefits and career options with this Company - typically...

Surrey £14,000
Senior Systems Designer or consultant/g
Consultant's ref: SA 505

Please quote ref: 137/76.

ROYCE £14,000
Senior Systems Designer or consultant/g
Consultant's ref: SA 505

Please quote ref: 137/76.

AB EXECUTIVE (KINGSTON)
01-549 6441

SALES BIT**Quality of management — 8****Overworked? — It's probably your own fault!**

Leaving your office door permanently open can be a laudable piece of North American democracy, but it also serves to generate unnecessary interruptions from subordinates, visitors and all other forms of shop.

Let people know that you will always make yourself available, but on your terms not theirs. Just think what you could achieve if your interruptions were reduced by 50%.

Use your secretary effectively, stating your plans and making it known when you accept calls and from whom. The increase in your working efficiency could be quite considerable if your efforts are limited to this alone.

Meetings? Well we all know about them! Meetings tend to lose their usefulness at an exceptional rate after about two hours. The application of a time limit tends to inflict a higher degree of urgency and objectivity to the attitude of participants.

If the costs for your salary and commission are £20,000, the chances are that the addition of overheads, expenses and company car will bring the total to roughly £24,000. That's a very convenient figure when one considers they are approximately 240 working days in a year.

However, many companies do not regard remuneration as the real cost of a sales manager. He or she is seen in terms of negative revenue. When sales managers achieve or exceed revenue target, they cost nothing. If further performance is less than expected then that is the price the company pays.

I have heard it said that some American companies install digital time-cost clocks into management meetings and conventions which declare the cumulative cost to the company of the executives involved. The intention is to motivate the participants into the most efficient use of time.

These are important aspects of management that must be given individual exposure during every working week. Without these the manager becomes a stagnant automaton who is neither developing nor working to maximum potential and probably destined for a nervous breakdown, a heart attack, or even both.

That's a terrible price to pay for failing to realise one's real potential.

So, next time you take a pile of work home for the weekend and your spouse happens to mention how easy it is to get a divorce these days, do take time to plan your business activities more effectively.

Alan Williams

PUZZLE ANSWER

WHEN one looks at the first two equations, it becomes clear that the pair of factors giving 288 must have the same sum as the pair of factors producing 328. The only two factor-pairs that meet this condition are 8 x 36 and 6 x 56.

This leaves us with (8 + D)(6 + C) = 448. Here again the knowledge that the factor-pair sums to 44, is valuable, and the remainder of the solution turns out to be C = 10; D = 26.

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Reporting to the Regional Manager you will have full responsibility for producing cutting edge software solutions and estimated costs + sales, and managing the development and implementation of bespoke systems + post sales.

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Harry Clark on 031-226 6419 or write enclosing career details.

Please quote ref: 137/76.

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